

PROMOTING THE DEVELOPMENT OF A QUALITY CULTURE: STEPS AND TOOLS FOR RESEARCH MANAGEMENT

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This paper presents a case study of a Portuguese research centre, demonstrating the barriers to developing a quality culture. Two main barriers are identified: (i) need for meta-governance at institutional level to develop strategies dissociated from governments' objectives and goals and central administration level and (ii) lack of a sound internal quality culture based on the engagement and cohesion across the community. Four possible strategies for overcoming these barriers are discussed: (i) collecting information, experiences and good practices; (ii) designing contextualized research monitoring/ assessment tools (Institutional Research Assessment Matrix); (iii) promoting the creation of internal shared quality perspectives (Research Quality Workshop and Research Quality Questionnaire); iv) providing support. We worked on the intersection between the European policy (research assessment guidelines and frameworks) and the national/institutional research assessment experiences and practices aiming to assist research managers in their strategic planning initiatives.

Keywords: research; quality; culture; strategic planning; research management; enhancement.

INTRODUCTION

The outcomes of the new public management opened the way for an understanding of quality based on the concepts of evaluation, assessment, accreditation and audit, major concerns for higher education institutions nowadays.

In this scope, the assessment of quality and productivity of academic research have gained an increased relevance in building academic reputation, promoting staff and accessing funding/ financial support as research performance, in particular, occurs within conditions provided specifically by the institutional context (education and training), opportunity and resources and brings about a range of outcomes (product, impact and reputation) (Bazeley, 2010).

In this context, higher education institutions have been developing many internal reform policies in their pursuit for excellence and for more intra-organisational efficiency through the development of internal quality schemes

and other monitoring devices. This emphasis on the role of the institution in the process of research performance is the basis of our main argument as the preoccupation with how academics are best managed and how managerial practices can contribute for the creation of a common quality culture efficient in promoting good quality research.

This study, attempts to redress the lack of literature with regard to the role of institutions/ management and researchers in the process of research quality enhancement based on the notion that this contribution should occur in an environment supported by a strong quality culture.

In the specific Portuguese Higher Education context, there is a clear and identified need for meta-governance at institutional level to develop strategies to promote the development of internal quality culture based on the engagement and cohesion across the community.

Therefore, we intend to concentrate our attention on what institutions can do to promote the quality of research through the combination of a set of data sources that analyse the main roles in the process of assessment. Taking into consideration this reality, we supported our study with an in-depth theoretical background, a collection of the major research assessment guidelines and the recommendations based on a case study developed in the UK.

The contribution of these diverse sources allowed the development of strategies for overcoming these barriers and the outputs may contribute not only to the design of more adapted and sustained instruments for monitoring and enhancing the quality of research but also tools to engage the academia in a shared quality culture.

QUALITY CULTURE IN HIGHER EDUCATION RESEARCH

A working definition of quality culture regards it as “an organisational culture which contributes to the development of effective and efficient *care for quality*” (Berings, Beerten, Hulpiau & Verhesschen, 2011, p.38).

This vision can stimulate a fruitful debate about the relation between the system and cultural approach and the dialectic nature of quality culture in itself and help higher education institutions and their divisions to reflect on their organisational culture.

According to Harvey & Stensaker (2008, 434) quality culture ” is, on the one hand, impossible to define since every higher education institution is unique (culture as something an organization is), while on the other it could be brought forward by structural or managerial efforts stimulating shared values and beliefs”. Moreover, the notion of quality culture should be understood as comprising two distinct sets of elements: “shared values, beliefs, expectations and commitments toward quality” and “a structural/managerial element with defined processes that enhance quality and aim at coordinating efforts” (EUA 2006, p.10).

More specifically, Edgar & Geare (2013) stress the role that culture has on the environment in which academics work. In the context of a study developed with high performance groups aiming to assess strength of culture respondents strongly endorse the views that ‘culture is important for performance’; an ‘identifiable set of norms and values exist to guide behaviour’; the ‘extent to which norms and values are perceived to be shared’; and ‘department members share the same research goals and willingly work towards achievement of these’ (p.15). In fact, higher performers tend to characterize their work environment as one which is empowering, and provides them with autonomy and responsibility. In fact, the role of quality culture as a key element for research performance is essential to understand how researchers and research centre administrators can work together as agents and objects for the development of a strong research culture.

In this same scope, Harvey (2007, p.81) identified features emerging as indicative of a quality culture (some of them very relevant for the purpose of the present study):

“academic ownership of quality, partnership and co-operation, sharing of experiences and team working; recognition by academics and administrators of need for a system of quality monitoring to ensure accountability (and compliance where required) and to facilitate improvement; supporting the individual as an autonomous scholar but not at the expense of the learning community; there is a symbiotic relationship between individual and community, facilitating and encouraging reflexivity and praxis; self-reflection, developing improvement initiatives and implementing them; welcoming external critical evaluation from a variety of sources including formal external

evaluations, external peers acting as critical friends, and internal peer review and support (...)"

Following Edgar & Geare's perspective (2013, p.3) culture is considered a predictor of ability, motivation and opportunity and suggested research cultures within university departments can contain "both enabling and constraining' factors, and these are likely to influence performance outcomes". According to Deem and Lucas (2007, p.127) enabling factors include the 'management of workloads to create research space, internal funding, research mentors for inexperienced staff, research seminars and research methods sessions', and constraining features include 'high teaching loads, demanding administrative roles, lack of time for research and absence of experience in getting funding, managing projects, staff and budgets and writing for publication'

Under the most relevant practices collected from literature are the development of mission statements and policies, the improvement of organizational culture, the development of leadership skills among the academics, the use of resource management and a supporting quality information system and the encouragement of effective communication between higher education stakeholders both within an institution and outside, which can be embraced in such criteria as *leadership*, *teamwork* and *resource management* (Pratasavitskaya & Stensaker, 2010; Rosa, Sarrico & Amaral, 2012). The concept of "managing *for* quality"(Yorke, 2000,p.19) illustrates the essential widespread commitment to quality and its improvement through a sustained engagement with the meaning of quality, the implications for practice, and the embedding of 'quality thinking' in practice (Yorke, 2000, p.24).

Following the demand for embedding quality culture in higher Education using a comprehensive approach for organizational development the stress is put on the *empowerment* of all actor groups enabling them to develop their own quality goals, initiatives and measures (within the overall framework defined by the institutional mission) and making productive use of the actors' self-organizational abilities (EUA, 2007a).

In order to examine the quality culture developed in European Higher Education Institutions, the European University Association (EUA) launched the project *Examining Quality Culture* asking the institutions how and through

which activities they were assuring and enhancing quality emphasizing how “true high quality education cannot result only from quality assurance processes but rather is a consequence of the emergence of a quality culture shared by all members” (EUA, 2010, foreword). Additionally, in the second part of the same project, EUA (2011, p.12) project identified institutional processes and structures that support the development of an internal quality culture and a set of principles that promote a quality culture stressing the need “to build a university community and the staff’s identification with the institution and embedding a quality culture through internal communication, discussions and devolved responsibility while understanding the resistance to change and developing strategies to overcome it”.

Nevertheless, the development of managerial practices inside institutions involving researchers and managers and the strategies for developing a strong institutional culture towards research quality enhancement is still an open area for discussion.

PORTUGUESE HIGHER EDUCATION REFORM: THE URGE FOR THE DEVELOPMENT OF QUALITY CULTURE

In the last decade, higher education in Portugal has witnessed a deep process of change that followed reviews and recommendations by international organisations, such as the OECD and ENQA. Since 2005, new legislation has been issued (RJIES - *Juridical Regime for Higher Education Institutions*- Law 62/2007), introducing significant changes in the institutional governance structures and the internal organization and in the quality evaluation system (*Juridical Regime the Assessment of Higher Education* – Law 38/2007) which have placed a stronger emphasis on the presence of external stakeholders in institutions with the creation of A3ES - *Agency for Assessment and Accreditation of Higher Education* (Decree Law 369/2007) (Amaral & Neave, 2012).

The effects of these new frameworks led to “limitation and decrease of representativeness of all the university constituencies, together with the underrepresentation of faculties, schools and departments in the governance bodies, contributing to highlight the new governance characteristics... confirm the emergence of some elements of the characteristics of new governance approach ... These elements are best seen as consequences or reactions of universities counteracting the loss of collegial governance”(Magalhães et al., 2013, pp.308-309).

The relevance of a clear intervention in this domain is stated by Sarrico, Veiga & Amaral (2013) when reporting the process of how evolving institutional governance mechanisms are changing the face of quality in Portuguese higher education call it a “long road”, stating that regarding quality culture, their results are very much in line with those of the EUA report examining quality cultures (EUA 2010), namely that quality assurance systems are largely in place (...) Yet, developing a quality culture takes time and effort, which is patent in the fact that institutions collect a manna of data but find it more difficult to use it to foster continuous improvement.

The pertinence of the development of a strong quality culture is evident in the *Institutional Evaluation Programme* performed by EUA (2005) for Portugal. This programme provided recommendations on and insights into the institutions’ structures, processes, policies and culture, to enable them to perform the full range of their activities in line with their strategic plans and objectives, and build the capacity to address change processes. The IEP identified strengths to promote a set of practices that can be looked at as references of what a university should do in order to have an effective internal quality culture that supports its strategy for research, teaching and services to society (Rosa et al, 2011).

Amaral, Rosa & Fonseca (2013) based on the preliminary results (Amaral *et al.*, 2011) from a European research project (*Identifying Barriers in Promoting the European Standards and Guidelines for Quality Assurance at Institutional Level and Making Recommendations as to how these might be addressed*) reveal, from the analysis of four case studies (four Portuguese higher education institutions), that the implementation of a quality assurance system in each institution seems to be a unique process that institutions are free to implement in accordance with their mission, goals and institutional cultures.

Additionally, Magalhães, et al. (2013, p.310) when referring to governance and institutional autonomy in Portuguese Higher Education argue for the need for meta-governance at institutional level as autonomous institutions might develop their strategies dissociated from governments’ objectives and goals and central administration level and stresses that “the new governance adds the importance of tools selection and the development of enablement skills to cope with management challenges”.

BACKGROUND STUDY DESIGN

The background research project is integrated in the strategic plan of the CIDTFF *research centre* (“*Didactics and Technology in Education of Trainers*” - University of Aveiro, Portugal - assessed as Excellent in the last four international evaluations), more specifically in Research line 3: *Quality Evaluation in Education* concerning its specific focus on educational policies and management. These topics are studied through the lens of evaluation/assessment approaches developed in its *Laboratory for the Evaluation of Educational Quality* (LAQE) where several activities are developed concerning fundamental and applied research for distinct publics (researchers, educators, politicians, stakeholders) at different contexts with the objective to contribute with concrete research-based proposals for the definition of educational, training and educational research policies, in the intervention domains of the research center.

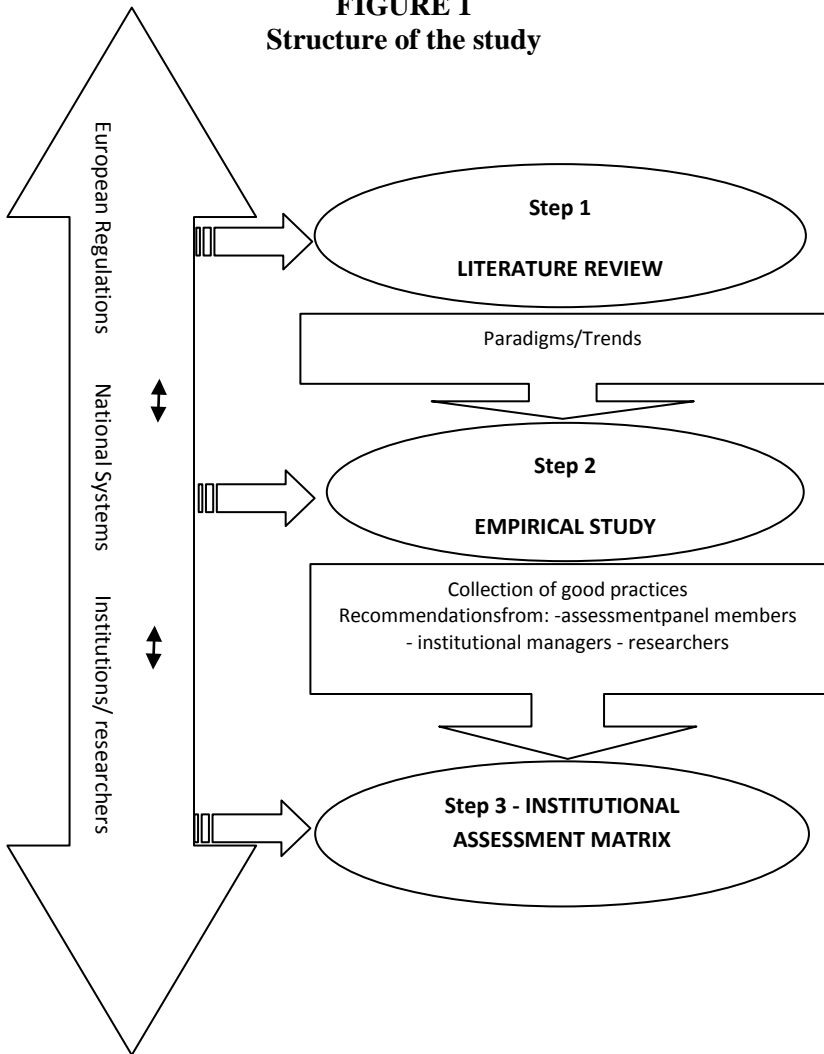
The development of this research study is particularly relevant in the specific context of the University of Aveiro. According to the recommendations from EUA (EUA, 2007b, pp.15-16) the institution should “ensure a sound quality culture (...) UA will need to pay great attention to the engagement of the community (...) it is essential to ensure cohesion across the community (...) discuss internal quality culture in order to answer the following questions: how to define quality? What sorts of quality levels are required in the context of UA’s strategic goals?”

The study that supported the development of the strategies to be presented and discussed was employed an integrated mixed design allowing an overlapping set of data collection instruments to gauge the topic using three views/lenses organized in a zoom-style approach:

Literature review, normative documents/guidelines and critique; Auscultation of experiences, good practices and recommendations based on a national system (case study in the context of the UK RAE); Perceptions/ experiences of research managers and researchers - (case study in Portugal - Research Centre ‘*Didactics and Technology in Education of Trainers*’ - CIDTFF).

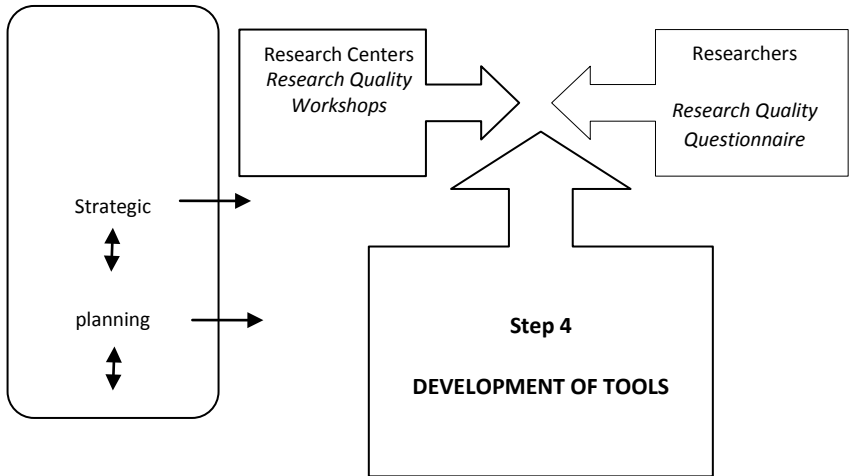
In Figure 1 we can see how the study was conducted bearing in mind its consecutive views, steps, interrelations and specific outcomes:

FIGURE 1
Structure of the study



CASE STUDY

CIDTFF/Portugal



OUTCOME: STRATEGIES FOR OVERCOMING THE BARRIERS

The presentation of the strategies identified for overcoming the identified barriers were based on the translation of the steps of the project aiming to assist managers in the design of intervention initiatives for promoting quality culture enhancement.

Strategy 1: Collecting information, experiences and good practices

Information (conceptual/ theoretical and normative background)

This first strategy aims to contribute for the organization of data to inform the process of culture acknowledgement and recognition needed for overcoming the inability to fully understand the general scope of the notion of quality culture.

We tried to oppose the misconception of many academics that consider that the notion of quality culture is relevant to the administration alone and not to them.

In order to embed quality, all actors must be informed about the goals, processes and frameworks that are put in place to achieve quality. This is achieved through a shared understanding of key institutional data – historical, comparative, national and international – and systematically collecting and analysing them.

As postulated by Wingrove (2012, p.131) we believe institutions should give voice to academics' lived experiences of research and raise questions concerning the efficacy of existing institutional support structures, gaps between internal research policy and the lived research experience "as a way not only to build institutional knowledge to inform and enhance institutional capacity to more effectively sustain and grow quality research, but also to strengthen advocacy for much-needed and targeted external research funding".

The collection of data was organised into categories bearing in mind the concepts, theories and paradigms/trends, constraints and implications of research quality in the context of higher education.

In order to build this background information, we considered the following guiding questions: Who develops research? What is produced? How is it supported? How is it assessed?

These questions allowed the delimitation of the topics to consider when trying to characterise the factors involved in the production of high quality research: subjects, processes, outputs, support/monitoring/assessment tools.

Additionally, there was an extensive review of the main normative documents and assessment frameworks used across Europe and beyond to assess the quality of research. The most relevant frameworks and guidelines are portrayed in the European Commission's Research Policy report conducted by the Expert Group on Assessment of University-Based Research: Assessing Europe's University-Based Research (AUBR, 2010).

In this scope, we recommend the use of the *Multidimensional Research Assessment Matrix* as a reference tool, mainly used for framing the assumptions about the dimensions to consider when assessing the quality of research (AUBR, 2010, 42): Research Engagement, Resources and Institutional Culture; Performance, Productivity and Innovation; Quality, Merit and Impact and Sustainability and Support.

These dimensions may be directly used to frame the main areas for intervention when working on the intersection between policy and practice.

Collecting good practices and recommendations

The development of empirical backup studies in general and the use of case studies in particular was considered to be vital for targeting general areas for change, involvement and empowerment.

It allows the collection of useful research management practices for proposing the strategic direction, setting milestones, disseminating key ideas, and coordinating reform processes.

In fact, these questions and issues need to be set within a context and answers to these questions must be framed within the view of its actors.

In the context of the background research study, it was essential to concentrate on a specific system to be used as a case study in order to portray its characteristics and collect good practices and recommendations - *Research Assessment Exercise (RAE – UK)*. The idea was, not only to focus on the system but also to get an integrated view of the practices as perceived by researchers and research managers.

The choice of this reference case study was based on the vast literature and open discussion about its characteristics, intended and unintended consequences and the new developments and challenges anticipated by the *Research Excellence Framework* (to be implemented in 2014) (HEFCE, 2008; 2012).

The semi-directed interviews were, therefore, conducted with two members from the UK's last RAE panels (2008), two institutional representatives (a world-leading research-intensive/ research-led teaching approach institution and a teaching-led /research informed institution) and two senior researchers (experts in the area of educational research).

The respondents were invited to present their perceptions, good practices and recommendations based on their experiences with RAE (Cabral & Huet, 2012). A set of good practices was collected aiming to inform the next step associated with its integration at an institutional level:

Who develops research - develop tools to identify the researchers'/ research teams' profiles (habits, motivations and expectations, publication behaviours and productivity...); promote a strong research culture and invest in building research capacity and reinforce identity building and participation of researchers in decision taking.

What is being produced - define the conceptions and forms of research outputs; create research portfolios, institutional repositories and internal databases for the collection of outputs/publications, bibliometric data, and information about projects, patents, spin-offs, partnerships; promote the collaboration/partnerships/trans, multi and inter-disciplinary in/ across departments and nationally/ internationally.

How it is assessed - plan strategically at all levels in the institution (based on the definition of its research identity and areas of strength/differentiation; use peer review as a mechanism for quality control and the basis for the development of internal assessment exercises where all the intervenient contribute for the regulation and control of the system; create dedicated structures and mechanisms to invest in rigour, promote moderation and comparability procedures and prevent "game playing" and develop tools and communication channels to enhance innovation and creativity.

How it is supported - promote the highest quality of research, with a clear emphasis on training (research skills, publication techniques and peer review); engage researchers and the academic community in a common effort to achieve excellence and a constant and open debate about what constitutes international research, the constraints associated with research communication language as well as the notions of impact and significance; recognise merit and reward with funding and rely, not only on international commercial ranking and benchmarking tools, but also on its research capacity and impact on policy and practice and future developments; invest and support young researchers and make the research career attractive.

Strategy 2 – Designing contextualized research monitoring/ assessment tools

Institutional Research Assessment Matrix

The conceptual premises and the lessons learned from the European practice were the background for the development of the foundations for building a framework for monitoring the quality of research at an institutional level. We believe that institutions must work on the development of internal tools

acknowledged and recognized as overarching frameworks for quality review processes and standards as a way for stressing the role of self-evaluation stage as a collective exercise to ensure the implementation of appropriate change

The design of a practical, informative tool requires making decisions about which methodology to be used, which indicators calculated, and which data collected. These decisions in turn reflect answers to a number of questions about the scope and purpose of the research assessment process in hand. Such frameworks of assessment stress the need for a clear articulation of guidelines at all institutional levels and their strong dependence upon broad-based support and participation by all the organisational constituents.

Combining the theoretical and conceptual premises for building evaluation/assessment frameworks with the ability of the *Multidimensional Research Assessment Matrix* to “enable diverse users and stakeholders to design fit-for-purpose assessment scenarios, methodologies, and instruments” (AUBR, 2010, 15), we designed the *Institutional Assessment Matrix* (Cabral & Huet, 2012).

This translation of the general matrix to a specific contextualized version follows the need to “design flexible and multidimensional methodologies that will adapt to the diverse and complex nature of research, disciplines and of our universities” (as suggested by Commissioner Janez Potočnik in the foreword of AUBR, 2010) and is consistent with the two major interrelated activities undertaken in the context of the preparation of the general matrix by the expert group: “1) preparation and discussion of a number of comprehensive topic-specific working papers, and 2) preparation and analysis of case studies of institutional, national and global assessment exercises and system” (AUBR, 2010, p.11).

Additionally, by preparing this internal framework we promote the role of self evaluation as perceived in the context of the report: “a useful way to include the research community pro-actively in assessing their own contribution, but also as a means of placing the research process – which includes the organization, management, and developments over time – into context and related to institutional mission” (AUBR, 2010, p.58).

This purpose-built framework was designed bearing in mind the conceptual guidelines from literature and normative documents: Who develops research: Research Environment; What is being produced: Productivity and Scientific

dissemination; How it is assessed: Recognition and Merit and Impact; How it is supported: Supervision.

The combination of all contributors with the analysis of the dimensions of the *Multidimensional Research Assessment Matrix* (AUBR, 2010) led to the design of the *Institutional Research Assessment Matrix (IRAM)*(Cabral & Huet, 2012) (Figure 2)

FIGURE 2
Main Dimensions Presented by the Two Matrices.

<i>Multidimensional Research Assessment Matrix</i> (AUBR, 2010)	<i>Institutional Research Assessment Matrix – IRAM</i> (Authors, 2012)
Main dimensions	
Research Infrastructure Research Productivity Innovation and Social Benefits Quality and Scholarly Impact Sustainability and Scale	Research Environment Productivity Scientific dissemination Recognition and Merit Impact Supervision

Strategy 3 - Promoting the creation of internal shared quality perspectives

Research Quality Workshops

The development of the guidelines/dimensions of the *Institutional Research Assessment Matrix* was the argument for the development of a specific case study that comprised two intervenient parts: research management and the researchers. The management of the research centre promoted an internal workshop - *Research Quality Workshop* - with the aim of presenting the dimensions/guidelines collected from the previous steps of the process aiming to start the discussion about the subdimensions and topics to be considered for promoting research quality

The main underlying target was to translate strategy into day-to-day by reinforcing the role of researchers at an individual level (working on the personal commitment to strive for quality) and collective level as a group embracing a common identity and goals. At the same time, the strategy supports the symbiotic relationship between individual and community, facilitating and encouraging reflexivity, praxis and self-reflection.

From the research management point of view the case study was an opportunity to work on the development of a shared and internalised institutional vision, mission and strategic plan. The iterating processes involved in the conduction of a workshop were thought to improve communication, allow feedback but essentially to gather and discuss contributions reinforcing commitment and active ownership.

The main aim is to promote open discussion about the tensions implied/involved in the personal critical perception of research quality: meaning, objectives and strategic planning; notions of relevance and impact; ethics and research autonomy, the collective constraints associated with research groups, centers, disciplines and scientific domains, the role of researchers in the definition of research priorities and the political dominant discourses and measures concerning research priorities, funding, benchmarking and accountability.

The use of this strategy is considered to stimulate a broader and more critical thinking about research assessment as found by Wooding & Grant (2003) in a series of workshops funded by the Joint Funding Bodies' Review of Research Assessment with the objective of investigating the views of research quality and attitudes of researchers towards the models of research assessment. We share this concern with the promotion of cooperation between researchers and policy makers/ managers and involving both groups on the identification and determination of issues of importance and concern.

The development of such a strategy is considered a major sign of acknowledgement of the urge for self evaluation and regulation based on the contributions from the researchers working on the meaning of quality, the implications for practice, and the embedding of 'quality thinking' in practice (Yorke, 2000, p.24).

Research Quality Questionnaire

The combination of the dimensions addressed by the framework and the contributions from the workshop allowed a set of feedback loops that strived into the design of a strategic management tool: the *Research Quality Questionnaire* – a tool prepared to measure the level of relevance attributed by researchers to the dimensions/ sub-dimensions and items presented in the *Institutional Research Assessment Matrix* using a 5 point scale (from of relevance):The dimensions considered for the final version of the questionnaire were the following: Production; Dissemination; Merit; Impact; Supervision; Research Environment.

Researchers were invited to present what they personally considered to be the most relevant dimensions/ subdimensions and items to develop high quality research in their scientific field. This emphasis on the individual perception was thought to be the major highlight of this instrument and a very enriching moment of reflexive thinking. The same objective was outlined by Wooding & Grant (2003) when investigating the views of researchers regarding the characteristics of high quality research and research assessment systems.

This instrument can be very useful when trying to define the identity of the research groups/centers and, at the same time, provide evidence for the self-assessment of researchers as individuals and their perception about research management (mission accomplishment, planning efficiency and monitoring/support effectiveness).

We fully advocate “giving voice to the academy” (Wingrove 2012, p.147) because understanding “more deeply academics’ lived experiences of research

offers real potential to enhance the development of needs-based strategies, better support the targeting of internal resources (...) facilitating research engagement and growing levels of activity and outputs also need to be mapped and disseminated, with their impact and outcomes in turn fed into policy settings”.

Strategy 4. Providing support

When revisiting the notion of research quality culture we realize how the *empowerment* of all actor groups may enable them to develop their own quality goals, initiatives and measures (within the overall framework defined by the institutional mission) and make productive use of the actors’ self-organisational abilities (EUA, 2007a).

This “intervention step” of the project aims to contrariate the disciplinary power implied by assessment that can “inure the process of research and distract researchers from fulfilling their aims, objectives and research potential.

The development of internal efforts and regulation processes are based on the identification of the existing needs, demands, experiences but mainly potential areas for improvement not only by the researchers but also by the research center.

These efforts follow the enabling factors for promoting a research quality culture enunciated by Deem and Lucas (2007, p.127) that included ‘research mentors for inexperienced staff, research seminars and research methods sessions’, and intends to overcome its constraining features that include ‘absence of experience in getting funding, managing projects, staff and budgets and writing for publication’

It is considered to be an experience for promoting critical reflexive awareness about the role of the researcher as the driving force of research in a moment to reinforce the sense identity and autonomy. This outcome of the study is consistent with Surssock’s perceptions in EUA (2011, p.12) about “embedding a quality culture through internal communication, discussions and devolved

responsibility while understanding the resistance to change and developing strategies to overcome it”.

The collaboration between researchers/ research management in the development, testing and implementation of tools seeks to promote self-evaluation /regulation of the researchers as individuals and/ or groups and the collection of information, enhancement and promotion research quality by the research centre. These tools include assessment report guidelines, procedures for good research practice, repositories for scientific production and dissemination, research project databases, collaborative platforms for researchers, among others.

The design of research support tools specifically for individual researchers/ research groups is also a major priority namely concerning the creation of research portfolios, researcher development frameworks, and guidelines to self-evaluation, among others.

Overall, this recommendation is particularly relevant in an institution where there are many new and emerging researchers not very much acquainted with the assessment system demands and needs associated with a broad understanding of the new trends and patterns of scientific writing, referencing and authorship, grant writing, research commercialization, intellectual property, project management, among many others.

At this level, research training/mentoring initiatives could concentrate its efforts in providing information about output types and characteristics, publication behaviours, citation and dissemination techniques, research productivity, performance and significance.

Additionally, the participation of researchers in training workshops on peer review (including information and discussion about its notion, processes, strategies, resources, current issues) integrated in a research mentoring plan and as a part of the researchers' activities, can be a remarkable tool for

professional development and consolidation of a strong research culture based on cooperation and creation of partnerships between peers.

In this extent, we aim to reach Harvey's features of a strong quality culture (2007, 81) by developing improvement initiatives and implementing them, welcoming external critical evaluation from a variety of sources including formal external evaluations, external peers acting as critical friends, and internal peer review and support.

FINAL CONSIDERATIONS

The development of strategies should address the key issues and allow the creation of a sustained and applicable system for the integration of a consolidated quality culture approach inside institutions.

The results reported above reinforce the need to support the creation of a strong quality culture as the starting step for the development of high quality research. In fact, these results came to justify and corroborate our initial objectives set on the perception that an intervention at this level was essential.

This approach is just revealing of the need to overcome the identified lack of identity and inertia to promote change and an appalling lack of institutional control awareness when it comes to accomplish the European guidelines for research quality.

The general outcomes of this study can apply to all research domains/spectrum of disciplines from the hard sciences and humanities to social sciences and, naturally, education. Their general tone allows their modelling and adaptation to specific contexts and approaches.

With this study we conclude that involving researchers in the process of research could enhance the process of engagement, compromise and commitment towards the development of internal quality culture and a deeper sense of belonging. Therefore, we suggest that the role of researchers and research management should be emphasized as major stakeholders in the process of developing high quality research.

In a final analysis our study reveals some limitations. The first has to do with the sensitivity of the subject, thereluctance for participation and the internal policy constraints involved in supporting and developing researchon/into

higher education research having your own research environment as your research field.

Further empirical and theoretical work is needed to understand the potential of quality culture as a tool for promoting research quality. The presentation of the structure of our work may stimulate research in this direction.

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