The Development of an Internal Quality Assurance Policy for Research at the University of Cyprus

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Abstract

The paper addresses the development of a Quality Assurance (QA) policy for research at the University of Cyprus (UOC). The new research policy of the University, that was set into operation in October 2003, encompasses a number of institutions, namely (a) the support of the activities of individual researchers, including their mobility, (b) start-up funds for newly appointed members of staff, (c) co-funding of external research projects, (d) different types of internal research projects, and (e) the support of graduate students that are also researchers on funded projects. The implementation of the new research policy necessitated both the enhancement of the internal administrative infrastructure for research as well as the establishment of direct links with Brussels through the operation of a UOC Brussels Office. The internal QA research policy and its underlying mechanisms aim to comprehensively address and evaluate, with the purpose of continually improving, all internal research institutions and the administrative infrastructure supporting them.

1. Internal Quality Assurance as a Strategic Goal of the University of Cyprus

Cyprus is one of the signatory countries of the Bologna process. The University of Cyprus is the oldest amongst the three universities operating in Cyprus at present (although a number of private schools of tertiary education have accredited programs at the first and second cycle levels) and the only tertiary education institution in Cyprus offering doctoral level programs; as such UOC has taken up a leading role in Cyprus in implementing the Bologna reforms (the other two universities are the Open University in Cyprus that admitted its first students in October 2006, and the Cyprus University of Technology that will start its programs of study in September 2007).

UOC admitted its first students in 1992 (about 500 in number). Presently it has a student population of about 5000, from which about 1000 are graduate students, and from these about 200 are doctoral students. More than half of the doctoral students pursue their research programs part-time, a situation we would like to change by offering incentives to students to be full-time researchers. UOC issues its Diploma Supplement, for 1st and 2nd cycle titles, since 2004 and as from last academic year (2005/06) the ECTS requirements, both for transfer and accumulation, are in full

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operation for all programs of the University. These major reforms were accepted with relative ease, although considerable effort was required for their actual implementation [1].

The University attaches particular importance to the development of its internal quality culture. In 2000 it appointed three member committees of external experts to evaluate its departments. In 2001 it went through EUA's institutional evaluation with a follow-up evaluation in 2004. The evaluation of departments by external experts is in the process of being institutionalized with the purpose of applying it every 4-5 years. The next evaluation is planned for 2007.

The need to develop a comprehensive internal QA policy, supported by appropriate quality indicators and including continuous feedback mechanisms was pointed out during the EUA evaluation and follow-up. It is now a major strategic goal of the University. The internal QA policy under development is based on the Bergen standards and guidelines for QA in the European Higher Education Area (EHEA) [2]. Moreover, EUA's QA proposals, in particular the proposed quality indicators for research [3] have been adopted. In addition, UOC collaborates with the Ministry of Education and Culture in establishing national legislation governing the operation of external QA processes, through a national QA Agency. The proposed national QA Agency will be responsible for the external evaluation of all tertiary education institutions, both state and private. In addition, it will evaluate the provision of transnational education in Cyprus by foreign institutions, and by Cypriot institutions abroad.

It is important to stress that in order to create and enhance the sought internal quality culture, the processes that implement the QA policy must be incorporated in a seamless fashion, so that they become fundamental and integral aspects of the processes they evaluate. This way they are not conceived as additional, unnecessary overhead. Otherwise, the whole attempt will defeat itself. In particular, the raw data for the quality indicators should be acquired in a way that is not causing extra effort on the part of the researchers and departmental units.
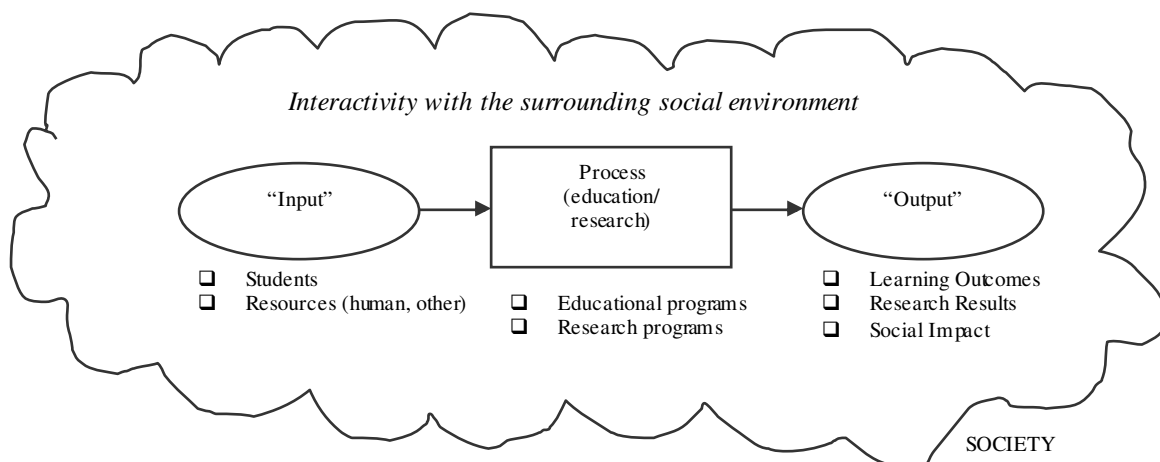

Figure 1 High Level Conception of Education Provision and the Conducting of Research

2. Enhancing University Autonomy and Self-Awareness

Higher education provision and the conducting of research are interactive processes that influence, and are influenced by, the social environment (see Fig. 1). An internal QA policy enhances the autonomy of the institution, since through its application the processes of the institution become more transparent including the explication of the constraints and difficulties that the institution faces. Moreover, the "output" of the institution becomes a direct function of the utilization of its available resources. Thus the internal QA makes the institution more accountable to its society. This in turn strengthens the confidence of the society in the institution, enhancing its autonomy.

An internal QA policy should aim to strengthen the university's self-awareness regarding its educational and scientific provision. Self-awareness implies the detection of problems and weaknesses through the application of objective mechanisms of diagnosis. Self-awareness is a precondition to improvement. Thus, the QA processes, lead to actions for improvement. The effectiveness or not of such actions will transpire in due course, by feeding back the relevant data/observations into the two step cycle "Diagnosis-Rectification". Consequently the application of the relevant QA processes and actions should be on a continuous basis (see Fig. 2) in order to succeed in sustaining quality enhancement.
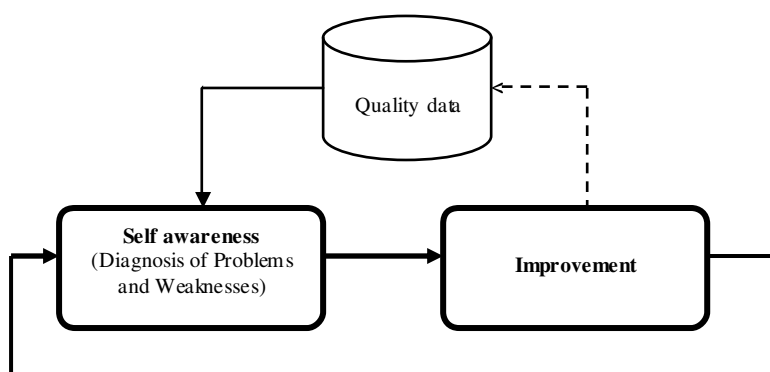

Figure 2 Continuous Enhancement of Quality through a Repetitive Process of Objective Self-awareness and Improvement

3. Research Institutions at the University of Cyprus

The research policy of the University of Cyprus, that was set into action in October 2003, and it is implemented by the Research Committee[2], includes the following institutions:

(a) *Support of research activities of individual researchers, including their mobility.* Individual members of academic staff can claim annual support for their research activities ranging from 3,500 to 7,500 Euro. The amount allocated is based on the evaluation of the applicant's research profile of the last three years. The evaluation is carried out by the Research Committee of the University as explained below. In 2005 about 53% of the internal research funds of the University were used for this purpose (see Fig. 3). The sustainability of this particular research institution through state

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[2] The Research Committee reports directly to the Senate. It is composed of an academic representative from each Faculty and is chaired by the Vice-Rector for Academic Affairs.

funds is considered significant by the University. Amongst other things this institution supports the mobility of researchers, not only for attending scientific conferences and disseminating research results, but also for keeping in touch with their collaborators in Europe and elsewhere.

(b) *Start-up funds for newly appointed members of academic staff.* Within their first year of appointment new members can claim up to 85,000 Euro, to be expended within a period of two years. This institution aims to assist new members in setting up their fundamental research infrastructure, so that they can claim successfully external research funds. Exceptionally, this institution can be used to assist newcomers in fulfilling prior research commitments at their previous employment. In 2005, 30% of the internal funds were used to support this institution.
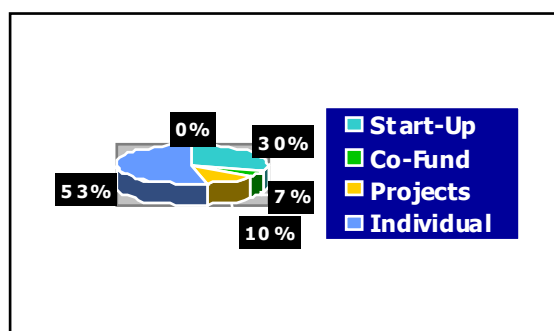

Figure 3 Internal Research Funds Distribution in 2005

(c) *Co-funding of external research projects.* This covers internal financial support for externally funded research projects, principally in terms of direct expenditure for purchasing major pieces of research equipment. In 2005, about 7% of the overall internal research funds were used for this purpose.

(d) *Internal research projects.* There are different types of internal research projects namely, (i) basic research projects, (ii) small-size, general projects, (iii) medium-size, general projects, (iv) large-size, interdisciplinary projects and (v) applied research projects. Depending on the type of a project, duration ranges from 1 to 4 years and annual budget from 25,000 to 100,000 Euro. In 2005, 10% of the internal funds were used for supporting internal projects.

(e) *Support of graduate students that are also researchers in funded projects.* Given the financial difficulties often faced by graduate students, in particular doctoral students, due to family and other responsibilities, that prevent them from attending their programs on a full time basis, this institution has been set up as an incentive for attracting and sustaining high quality graduate students. The institution was set in operation in the academic year 2006/07. At UOC, graduate fees range from 5,000 to 11,000 Euro, for the whole program. This new institution aims to cover the tuition fees of graduate students that are also researchers on funded projects.

In order to effectively apply the various institutions of the research policy it was necessary to enhance the University's administrative infrastructure for research with the recruitment of a number of new administrative officers and additional secretarial

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support. In addition, the University has started operating its own office in Brussels for the promotion of European collaborations.

4. Internal Quality Assurance for Research: Policy and Mechanisms

The University of Cyprus is a state university, depending critically on state funds. Although, in certain disciplines, the University has succeeded in attracting substantial external funds for research, still, at present, it depends almost entirely on the support of the state for the sustainability of the internal research institutions discussed above.[3] These institutions concern all disciplines. Being the oldest university in Cyprus, and the only tertiary education establishment in Cyprus with doctoral programs, UOC has a responsibility to support in a balanced way both basic/fundamental and applied research, and with respect to all disciplines. However, research profiling at the level of departments and schools is currently being discussed. The University's leadership is strongly committed to the research institutions presented above. This is why it is pushing forwards for the establishment of the internal quality culture, not only in research but in all other spheres of its activity, as a means of providing concrete evidence to the state of the significance of these institutions and their overall social impact, thus securing their sustainability through state support. As already pointed out, by becoming more accountable to the state stakeholders, the autonomy of the University is enhanced. There is ample evidence that the efforts so far are yielding results, since this year (2006) although most items of the University's state budget were either maintained to the same level as last year or even reduced, its budget for research has been increased. This is also an indication of the state's willingness to increase its overall investment in research, given the targets of the Lisbon strategy.

The current QA mechanisms for the internal research institutions are overviewed below. For each institution there are clearly specified and publicized criteria giving the preconditions and evaluation procedures for the given applications/proposals. In addition, there are criteria and mechanisms (i) for monitoring the utilization of the awarded research resources and (ii) for post evaluation on completion of the given tasks. Thus there are pre, ongoing and post, QA processes. For some institutions the ongoing and post QA processes are still under development. The pre QA processes are critical in the sense that they embody the quality-framework for the initial decisions. The ongoing and post QA processes feed back into the pre QA processes, so that subsequent experience in the actual deployment of a particular institution yields (quality-based) improvements in the initial decision stage.

(a) *Individual research activities*:
- Pre QA: An allocation is made on the basis of the researcher's scientific productivity and overall research profile of the last three years. The Research Committee is not in a position to judge in a strict scientific sense the quality of the publications of the researcher, and this was never the case (this year the Committee had to judge about 250 applications). However, it is in a position to accurately judge the overall picture of his/her research activities. Apart from the researcher's productivity in publications, the Committee considers his/her visibility in the relevant scientific community and overall mobility (participation/organizing of conferences, international collaborations, etc), the

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[3] Currently, the University's annual state budget for research is of the order of 3 million Euro.

employment of research assistants, the supervision of PhD students, and the successful completion of such programs, and the overall international presence of the researcher, e.g. through participation in externally funded projects. Finally an applicant gets a bonus, during his/her first three years of employment. The same benefit is bestowed to Departmental Chairs, Faculty Deans and Directors of Research Units.

- Ongoing QA: Given the amounts of funds allocated and the duration of time for their utilization (one year) the ongoing QA mechanisms simply ensure that all reimbursement claims are within the eligible costs and every claim is accompanied by all necessary documentary evidence.

- Post QA: Each new application for the following year must indicate how the funds allocated in the previous year were utilized. Given that there is a continuous feedback loop on the basis of a moving time-window spanning the past three years, no other post QA is deemed necessary. If a researcher systematically does not utilize his/her individual allocations to the maximum benefit for his/her activities and the overall good of the University, in due course this will transpire in his/her research profile and the relevant reductions in his/her allocations will ensue. Moreover, non-tenured staff is necessarily evaluated for promotion or dismissal at fixed time intervals.

(b) *Start-up funds for new members of academic staff*:
- Pre QA: A new member of staff has to apply within a year of the start of his/her appointment. The requested funds should be for developing fundamental research infrastructure (equipment, data banks, etc) that is expected to have usability within a relatively long time period. Technical support for setting up the equipment can also be requested, but not research assistantships. Applications are commented upon by Departmental Chairs and Faculty Deans. Apart from helping new staff in starting up their research at UOC, this institution aims (a) to promote the sharing of core research resources, and thus to avoid duplication, and (b) to cultivate collaborations within and across Departments and Faculties.

- Ongoing QA: Within the period of developing the requested infrastructure (one to two years) the only quality control performed is to ensure that the allocated funds are utilized as approved, and that necessary revisions to the approved allocation are performed if (part of) the requested resources have been secured through other means.

- Post QA: The post QA for the start-up funding institution is under discussion, and it could be at different levels. At the level of the individual, it is necessary to evaluate, say after three years since the setting up of the requested infrastructure, the return of the investment in a multi-dimensional fashion, e.g. external funding, research projects (external and/or internal), publications, graduate student supervision, etc. At the level of the University, a more global view of the overall investment should be adopted, focusing on the internal networking and collaborations promoted, the overall utilization and usability of the research infrastructures developed, and the life time of the acquired fundamental research resources. This post QA is likely to involve external experts.

(c) *Co-funding of external research projects:*

- Pre QA: The requested co-funding should be within the terms of the external funding body. In addition the requested direct co-funds should not exceed a certain percentage of the external funds and should be primarily for equipment. The general rule is that if a certain resource is absolutely necessary for the works of a project and the external funding body can cover for it, then it should not be requested through co-funding unless there are serious, exceptional circumstances. A preliminary approval should be secured from the Research Committee before submitting the project proposal.
- Ongoing QA: The allocated funds are utilized as approved.
- Post QA: The post QA mechanisms for this institution are under development. Their instigation is urgent given the rapidly increasing number of requests and the pressure on the Research Committee to approve them. The mechanisms should primarily focus on the return of the investments outside the particular projects, without overlooking the utilization of the obtained resources within the given projects (although the overall performance of an external project is the task of the funding body). The results of the post evaluation should be borne in mind in the context of subsequent requests for co-funding by the same individual. Furthermore, collective experience should feed back into the pre QA procedure, so that relevant improvements result.

(d) *Internal research projects*:

- Pre QA: Each type of internal project has its own necessary preconditions, e.g basic research, or applied research of major impact to the society of Cyprus, or true inter-disciplinarity for large-size projects, etc. For each category there are explicit review forms. Each proposal is evaluated by at least two external independent assessors. Overall, the eligibility criteria for application and selection are well defined and publicized. For certain categories the competition is at the level of Faculties to ensure higher comparability and thus fairness.
- Ongoing QA: An approved internal project is accompanied by an analytical budget that should be adhered to; any changes should be approved first by the Research Committee. At the end of each year a progress report needs to be submitted and a more detailed final report should be submitted within a short period after the completion of the project. The reports (intermediate and final) should clearly indicate the results so far (publications, products, etc.), and give a cost statement. The ongoing QA for internal projects, especially those projects of a longer duration and more substantial funding is in need of considerable strengthening, a topic of current discussion. This on its own would require additional resources, both in terms of the local administrative infrastructure, but also for utilizing external experts.
- Post QA: The final project reports and their accompanying documents constitute the material for the post QA of internal projects. The relevant mechanisms are currently under development. These should include feedback loops in the sense that a successful project should count in favor of a subsequent project application by the same candidate, whilst an unsuccessful project, especially if there is no justification for the lack of success, should count against. Needless to say it is necessary to define "success" and "failure" in this context. Since the instigation of the QA measures, both the number and quality of the submitted applications have substantially increased.

(e) *Support of graduate students that are also researchers in funded projects*:

- <u>Pre QA</u>: The graduate student should still be within the normal duration of his/her program, his/her academic performance should be satisfactory and his/her contribution to the research project should be substantial. The Committee in charge of this institution is the Graduate Studies Committee.
- <u>Ongoing QA</u>: At the end of each of the intermediate years, the student is reevaluated.
- <u>Post QA:</u> The given mechanisms are under development. The collective results of the post QA of this institution should feed back into the institution per se, yielding necessary refinements.

(f) *Local administrative infrastructure for research*: The entire administrative infrastructure of the University including that for research is being evaluated on the basis of a TQM approach.

(g) *Brussels Office:* The Brussels Office has been operating for almost two years now. So far it has been entirely supported through own funds of the University. Whether or not it would be justifiable to maintain this Office and to expand its services to external partners in Cyprus will transpire through a process of internal QA that should objectively explicate the benefits of its operation, in relation to its costs. A decision has been taken to perform the first evaluation next year and the relevant process is under development.

5. Advantages and Barriers of Internal Quality Assurance Mechanisms

The QA mechanisms discussed above function to quality-control the allocation of limited research resources. Each mechanism is characterized by (a) a set of evaluation criteria for the initial selection, (b) procedures for monitoring the utilization of the allocated resources and (c) means for evaluating the ultimate outcome on completion of the given research processes. The mechanisms aim to be transparent and merit-based and to be applied with consistency. The mechanisms themselves are also evaluated and reviewed for their appropriateness.

The perceived advantages of internal QA mechanisms for the management and allocation of research resources are the following: (a) Continuous quality enhancements in research by promoting merit-based competition and productivity in research, (b) the University is more accountable in its use of state funds, (c) the sustainability of the given research institutions is safeguarded, and (d) the University's autonomy is enhanced.

However there are also barriers. These are: (a) Establishing the appropriateness of the mechanisms in relation to the institutions they control, although having objective and well-defined criteria helps. (b) Likewise the necessary wide acceptability of the mechanisms will not result, if these are conceived as just additional overhead. (c) The application of the mechanisms should be time efficient. The work load involved should not defeat its purpose especially for resources that need to be utilized within a relatively short time period. (d) Finally the cost involved in applying the mechanisms should not outweigh their benefits, since this cost is deducted from the available research budget. A main item of cost concerns the use of external experts in the

evaluation processes involved. Another item concerns the additional cost of the administrative infrastructure.

6. Quality Data and Indicators for Research and the Training of Researchers

In this paper we have focused on the internal quality assurance of the various research institutions of the University of Cyprus. However this does not give the entire picture regarding our aspirations for developing a holistic quality assurance policy for research at UOC. In addition, we would like to develop a number of quality indicators for research and the training of researchers, based on the routine collection of raw quality data. These indicators will span the level of research activity of the University, its research productivity and visibility, its governance, and its openness to the outside world.

7. Conclusions

The internal quality assurance of the various institutions included in the internal research policy is of major significance to UOC. Depending on the outcome of this evaluation the University should decide about necessary revisions/refinements and eventually decide which of these institutions should continue to be supported and even strengthened, and which should be abolished. Above all it should have concrete evidence in its hands about their importance if it is to persuade the state to continue to provide the necessary funds for their sustainability.

In this paper we have overviewed the initial steps of the University in establishing explicit internal QA mechanisms for its internal research institutions. Undoubtedly this is an ongoing process, and the evaluation mechanisms themselves should be continuously evaluated for their own appropriateness, effectiveness and viability.

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