



# Inovação e Qualidade na Universidade

Innovation and Quality in the University

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# QUALITY IN RESEARCH – CAPES’ POINT OF VIEW<sup>1</sup>

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## 1. What is the purpose of Capes’ Evaluation?

### 1.1 *Capes and the Triennial Evaluation*

The **Federal Agency for Evaluation and Support of Graduate Studies Programs** (henceforth CAPES) from Brazilian Ministry of Education is a support agency and, as such, offers various modalities of scholarships and grants. It awards 58% of the master and doctorate scholarships in Brazil.

Together with the National Council for Scientific and Technological Development from the Ministry of Science and Technology (CNPq/MCT), it responds for 85% of the totality of grants in both levels of graduation. Moreover, Capes’ site of scientific journals is among the major sites in the world. However, what makes Capes different from other funding agencies such as CNPq and State Research Foundations – among them, Sao Paulo State is the wealthiest one and Rio Grande do Sul State is one of the most traditional – is the fact that it is also an evaluation agency. Its funding mission is linked to the evaluation of graduate programs, which also functions as a reference to the other agencies as well as to FINEP (Financial Institution for Studies and Projects – a former branch of Brazilian Federal Bank for Economic and Social Development, BNDES, and now an agency of the Ministry of Science and Technology) and to Higher Education Institutions (henceforth HEIs).

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<sup>1</sup> Text organized from the excerpts published at Capes’ site. Available at <http://www.Capes.gov.br/servicos/salaimprensa/artigos.html>, accessed on 03/18/2008.

Evaluation without funding risks being a mere academic activity. But funding without evaluation risks to be unfair – and useless. The symbiotic relation between both comes from the Brazilian tradition of evaluating graduate courses, firstly conducted in 1976, by Claudio de Moura Castro, the general-director at the time. Specialists attribute to the complex system that mixes evaluation by peers and external evaluation the international status Brazilian graduate courses have won.

The systematic evaluation of academic and professional master programs as well as doctoral programs is performed every three years. The courses are then graded from 1 to 7. In case the courses are graded 1 or 2, this means that they lose their accreditation. Their certificates are no longer valid. As a matter of fact, this means that the course is closed, although Capes does not act as a law enforcement institution. Grades from 3 to 5 are equivalent to regular, good and very good, respectively. 6 and 7 are equivalent to excellent, on international basis. Only programs that offer doctoral courses are eligible to grades 6 and 7.

## **1.2 The Evaluation bases**

Evaluation is based on DataCapes, a data bank that receives annual inqualification on the performance of all graduate programs. DataCapes comprises one of the most detailed and important databanks of higher education in the world. Its network caters for the needs of what each area of knowledge considers necessary to evaluate the quality of its programs. It is important to point out that, although there are general criteria of evaluation (scientific production of faculty and students, academic background of its faculty, academic quality of the courses and, since the Triennial Evaluation of 2007, the social impact of the program) each area is autonomous to define how it will conduct its evaluation – if it can convince the other ones that it has done a good job.

What are the uses of Capes' evaluation?

- it assures the students of a masters or doctoral program that they will attend classes and will be advised by competent professors, who are scientifically productive and are recognized as such by their peers. Therefore, the main beneficiary of evaluation is and must be the master or PhD candidate;
- it guarantees the quality of courses and, because of its legal power of “discontinuing” weak or deficient courses (only 2%

in 2004, and 1.7% in 2007), it has gotten a moral authority that induces the other courses to perform well;

- it is extremely economic, since with an amount of about 7 million Brazilian reais per year (a real was worth ca. US\$ 0.60 in 2007) it is possible to evaluate around 3,500 graduate courses in the whole of the country – and, in the years between successive triennial evaluations, to ensure an annual follow-up of the courses, thus impeding them to lose their quality and stimulating their growth;
- it grants conditions to the public power and to the private foundations to select the best groups that are eligible to receive grants: the ones that will have the most multiplying effect both for making science and for producing researchers;
- it allows that the very institutions that have gone through evaluations (universities, university centers and schools) receive a serious analysis – for free – that will help them define their policies of internal improvement;
- it offers the graduate who is interested in pursuing a masters or doctoral program, safe elements to choose the most adequate place for applying.

## **2. The evaluation: who performs it and who decides. Capes' area coordinators**

Capes has 44 coordinators (called “representatives” until the end of 2007), who have a three year mandate, being each one responsible for what we call an “area of knowledge”. We may notice that in some cases a defined area is referred to by a number: for instance, there are three Biological Sciences (I, II and III) and four Engineerings (I, II, III and IV), each one with its own coordinator. Thus, for instance, we may observe that Engineering I includes sanitary engineering, civil engineering and transportation engineering.

All this makes the system a very dynamic one and assures that all the areas of knowledge are duly evaluated by people that really understand about its process. New areas may be and are created, whenever necessary. For instance, in the end of 2007 Capes has created the new areas of Biotechnology and Materials, in order to cope with the evolution of science. The coordinators are named in accordance with rules established by Capes' Higher Council. Their mandate lasts three years and the term of the coordinators who directed

the Triennial Evaluation, 2007, has expired in the beginning of January 2008, a few weeks after the Triennial Evaluation was over. In short, the rules stipulate a consultation to the graduate programs and to the most important scientific societies in each area. Based on these indications, the Higher Council forms triple lists that are submitted to Capes' president, for choice and nomination. The main criteria for the choice are the name's scientific quality, his or her involvement with graduation, scientific representation and also, the concern that the final set of nominees represents, as far as possible, the diversity of the regions and institutions of higher education that are responsible for our graduate courses.

### **2.1 Area Committees**

No evaluation decision is made by isolated individuals. Although the coordinator has a mandate he may not decide alone on the most important issues, such as course evaluation. For each case, a committee must be organized and be approved by the Evaluation Director.

The criteria to be part of a committee include: 1) the scientific quality of its members; 2) their involvement with graduate studies; 3) the representation of the sub-areas that are part of the area and of their diversity; 4) the representation of the geographic regions which have programs in that area.

Capes does not work with permanent committees. This means that it is possible to alter the committee, in view of the demand that is being evaluated, especially when we receive – what happens every year – proposals of new courses; of the performance of the members of the committee, making it possible to substitute anyone whenever possible; of the importance of involving more members of the community in the evaluation, as well as avoiding the constitution of groups with vested interests in the interior of the area.

The concepts issued during the Triennial Evaluation are always formulated by the committee by means of the majority of votes. This means that the area coordinator may be “defeated” in his/her vote, which in fact happens in some cases. Our system, therefore, does not allow for decisions that are legally called monocratic (made by one member only).

The same goes for the “Application for Proposals for New Courses” (APCN). These proposals are evaluated by committees. In this case, the demand has a more important role in the definition of the

committee since – while the Triennial Evaluation deals with the diversity of the whole area – the APCNs presented in a year may be more concentrated in one sub-area than on another. In other words, if in Engineerings I there is no proposal for a new course in Sanitary Engineering, the APCN Committee does not need to include a specialist in this sub-area. What really matters is that the decision is always collective.

## ***2.2 The Scientific Technical Council of Higher Education (CTC-ES)***

Before the Federal Law that gave Capes the additional incumbency of supervising and inducing the training of fundamental school teachers, the agency was composed of two councils, the Higher Council and the Scientific Technical Council – now, the Scientific Technical Council of Higher Education. The Higher Council meets at least three times a year and represents an external large scale view of the agency. The Scientific Technical Council meets on a more regular basis and defines Capes' internal view, i.e., the view that the area coordinators have on it. It is the latter that makes the final decisions on the evaluation of courses, at the end of the Triennial, as well as approves – or refuses – proposals of new courses. No decision that involves approval or rejection of new courses, grade attributions to existing courses or its discontinuation is made by the Board of Directors. All these attributions are the responsibility of the Scientific Technical Council.

The Scientific Technical Council has undergone a change in the end of 2007, in order to make it more representative, since before that every great area – which size ranges from two to eight areas each – would have two members in the Council. Other precisions have been added, in order to ensure that the representatives of both the graduate student representative and the representative of the institutions of higher education be committed to doctoral work. Its present composition includes:

- eighteen councilors from the nine great areas of knowledge, provided that each area will have at least one representative but no more than three, each one with a three year mandate; they are elected, together with their deputies, by the coordinators of the areas;
- the representative (usually the chairperson) of the Forum of Graduate Studies Provosts, elected for a term of one year and

- usually reelected for at least a second term. He or she must belong to a HEI with doctoral programs recognized by Capes;
- a representative of the National Association of Graduate Students, whose mandate may also be renewed yearly. She or he must be a doctoral student;
  - Four, among the seven directors, of Capes: the President, the Evaluation Director, the Director of Domestic Funding and the Director of International Relations.

Therefore, in the Scientific Technical Council eighteen scientists have a three year mandate; one university administrator and one student have a mandate of one year; Capes' four directors do not have a mandate. This shows that, in the decisions, Capes' directors have at most four votes as compared with the other eighteen, all of them with mandates that do not depend on the Board of Directors. Actually, we should add that since 2004 the President has decided not to vote, and the Evaluation Director has been the only one to systematically be present and to vote. So the ratio in the decisions ensures that decisions are not taken on a political, but on an academic basis<sup>2</sup>.

As was stated before, the awarding of grades during the Triennial Evaluation is the Scientific Technical Council's responsibility. On a first stage, each committee evaluates the courses and attributes grades. The evaluation results of each program as well as the "area documents" (1. Qualis criteria; 2. criteria that have presided the triennial evaluation; 3. A qualified summary of the area evaluation) are submitted to the Scientific Technical Council. As a matter of fact, this is not a physical submittal since this documentation, since 2007, has been accessed online by the members of the Scientific Technical Council.

Effective 2004, when the present administration of Capes took office, there has been a strict reporting system of the courses in the Scientific Technical Council:

- each area has a reporter of all its courses (grades from 1 to 7), who is a councilor of the Scientific Technical Council from one great area very apart from the one that is being reported. For instance, a Medical course will be reported neither by a

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<sup>2</sup> Since the author of this series of articles is presently Capes Evaluation Director, he must add that this composition of the CTC-ES is very good for the Board of Directors, because it ensures we are not subject to the range of pressures that we could suffer if authorizing new courses or giving the grades they receive as a result of Triennial Evaluation was the result of discretionary powers in the hands of the Directors.

- councilor from the same great area (Health), nor by one of a close one (e.g. Biological or Agrarian Sciences), but by a councilor from, say, Humanities or Exact Sciences;
- moreover, the courses that have received 1 and 2 of the respective committees in the areas – and therefore will probably lose their accreditation – are all of them reported by a pair of special reporters who compare what each area considers as both necessary and sufficient for their exclusion of the graduate studies system;
  - on the other hand, the courses their areas suggested for grades 6 and 7 are additionally reported by a committee or two – each one formed by four councilors from very distinct areas– who guarantee that the maximum grades will be awarded only to the programs that have an equivalent value;
  - besides these, in 2007 we introduced an additional criterion: each time the coordinator of an area or his deputy belongs to a course considered for promotion, there has been an additional reporter for the case. And of course the person involved should leave the meeting room and refrain from voting.

This procedure thus assures that in the final assessment of the courses by the Scientific Technical Council each program is attentively followed by:

- an external reporter, in cases of courses with grades from 3 to 5;
- an external reporter plus two more, in the case of courses with grades 1 and 2;
- an external reporter plus a committee of five members, in the case of courses with grades 6 and 7; and additionally,
- in all cases, by two councilors, who represent the Scientific Technical Council in the great area to which the program that is being evaluated belongs to and who, therefore, would be their “advocates”, were us to understand that the reporters’ role is to criticize, which it is not: the whole set of procedures is devised to create a convergent evaluation of the system, not to put one area against another.

To sum up, this implies that each course be observed by a number, between three and eight councilors (from a total of little more than 20). It is hard to imagine an evaluation system that involves the active participation of such a meaningful percentage of members – between 15% and 40%.

When the evaluation of the programs by the Scientific Technical Council is through, the list of courses that were graded 3 or more is then announced. This usually happens around mid September and October.

The courses that were graded 1 or 2, and thus are deemed to lose their accreditation may request revision of results in a period of up to thirty days. Their names and data are not published at the time. All the information concerning them is sent online to the respective Provosts, who decide if they will or not request the revision. As a matter of fact, the courses with grades between 3 to 6 may also appeal, so as to have their grade highered. Curiously in 2007 one 7-grade course also made an appeal – not in order to raise (or to lower!) its grade, but because they were not happy about one comment that, by the bye, did not affect their getting the maximum possible grade.

In 2004, 54 courses were initially disaccredited. During the appeal, 18 had their grades highered to 3 and were kept in the system. Therefore, 36 courses were disaccredited, i.e., 2% of the total of 1.816 courses submitted to the Triennial 2004. For a comparison, in 2001 the disaccreditation affected 5% of the courses. One may conclude that between 2001 and 2004 the percentage of courses with a weak or deficient performance has reduced.

The appeals are judged by committees with a renewed composition. This is another measure we brought forth. They must be renewed at least in half so that a different team will check if the initial grade was fair. The Scientific Technical Council then considers the assessments of the committees and makes the final decision.

Within the Scientific Technical Council there is, at this stage, also a change in the reporting team. Taking our previous example of a Health program, initially reported by a councilor from the Humanities, it will now be reported by someone different. This means that at the stage of the appeals there is an increase in the number of members of the Scientific Technical Council having studied the course that now requests the revision of its grade. Their percentage – which was from 15% to 40% - increases to, at least, a range from 20% to 45%.

The evaluation is a collective entrepreneurship. It is not decided by the Evaluation Dept. of Capes, although it attempts to offer the best means in order to get the fairest results. The grades are attributed by two high committees in succession, i.e., first the area committee and then the Scientific Technical Council. It is this very control that

prevents it from being manipulated and ensures it is respected nationally and abroad.

### 3. Towards transparency

Capes is moving forward not just in the issue of indicators, but also regarding the transparency of the system. This topic will be addressed here, with a focus on the policies carried out since 2004.

#### 3.1 The “evaluation file”

Evaluation file, or *ficha de avaliação*, is a document that has been one the first of Capes’ to be available on the web – actually, since the early 2000s. These *fichas* summarize the evaluation of a specific program and the consequent attribution of the grade it deserves. We have introduced some innovations. Already in 2004 we insisted that the process be very clear and didactic. A course benefits from clear advice, especially when there is room for improvement (and there always is, even when the program gets a 7-grade). The courses will trust the evaluation results if they see that the files have been completed objectively and straightforwardly. The students, who benefit the most from the evaluation, may choose the best course to apply – or require from their own course that they improve.

The evaluation file is completed during the Triennial Evaluation and examines a course that is being offered. It should not be confounded with the recommendation file (*ficha de recomendação*), which applies to the new courses and concludes by approving or rejecting them. We intend to put these other files also on the web, more exactly, in the page relating to each new course.

The third change is the most important of all. The previous files had seven points (I will not call them “items”, since they were – and are – themselves divided in items), from which six were considered in order to confer the final grade. In 2003, a committee of the Scientific Technical Council thoroughly analyzed these files and proposed the reduction of the seven points to four. The idea was to update the criteria, since some were already obvious at the time: for example, today all faculty members of an academic Masters or Doctoral program have a Ph.D. For this reason, the item that graded whether the faculty members had Ph.D. degrees was become unnecessary and even obsolete. Thus, the new file eliminated many points that were outdated.

The changes that occurred in the proposed file were the result of a long discussion which involved the Scientific Technical Council, the 28 area coordinators who at that time did not belong to the Scientific Technical Council and coordinators of 2,000 graduate programs<sup>3</sup>, during the years 2004 and 2005.

To conclude the file issue, one may say that it has been converted into a fast, modern and elegant software that includes all the stages in the evaluation, up to the pleas for reconsideration. It is, most of all, user-friendly. It is very important that all graduate faculty members and – most of all – students understand why they have received a certain grade and not another and that they have an understanding of the whole process – both about their area and about the other ones.

### ***3.2 Dissertations and Theses on the Web***

A research conducted by our statistics department has found out that a great part of the production in graduate level was not made public – in some areas, more than two-thirds of the dissertations and theses). Capes' Administrative Rule n° 13/2006 has turned their publication in the Internet an important element for the triennial evaluation of the programs, in case they have not been edited in book or article format and have not been submitted for publication in any of these formats.

The idea is obviously to make it available for the ones interested – both for the national and the foreign public – the scientific knowledge generated in the masters and doctoral programs. In one year and a half after that decision, there were already more than 12 thousand dissertations and theses available in the site Domínio Público (<http://www.dominiopublico.gov.br>), which may be retrieved by anyone who is interested in them. These data do not include independent inclusion of theses and dissertations by the HEIs themselves – since the Capes decision accepts that option as devising the same end, namely, to make available as fast as possible the results of scientific research (we must take into account that, in Brazil, more than 95% of the scientific papers and a comparable proportion of scientific books have been produced by graduate studies programs).

One of the most accessed theses has been downloaded more than four thousand times, as of December 2007 – several times more than

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<sup>3</sup> For the difference between program and course, see *infra*.

what a university edition sells. The third or fourth more accessed thesis dealt with Plato's philosophy, which is not considered – perhaps erroneously... - as a very popular subject, and had been downloaded more than a thousand times. This way, any research conducted on the web on a theme addressed by a dissertation or thesis in Brazil may show a work conducted by our graduate programs.

This innovation brings about some additional gains. The first and major one is that research hitherto sterile, because not read, can now be read, quoted – and become fertile. We hope to conceive of methods that can measure this gain in the near future.

The second gain is that the student, when he/she chooses the theme of his research, will be able to know in advance what research in his area has been conducted in the country, even if this research has not been converted to article or book yet – and thus, will avoid the duplication of efforts, especially in the case of master programs. Personally, as a researcher, I had already in the span of a couple of years assessed two different proposals of masters dissertations on Foucault's last period; the proposals were quite similar, even though the students and their professors barely knew each other; this loss of intellectual energy may be prevented from now on.

Last but not least, the third gain has to do with the credibility of the evaluation. If the rule is that every dissertation or thesis will be published, in paper or on the web, it will be easy for anyone interested in checking the results of his/her program's evaluation (and from any other) to verify which ones are producing good dissertations and which are not. It is thus evident that, if a program highly graded by Capes produces various theses of low quality, the community itself will notice this and will become alert for this fact.

### ***3.3 Sites of the graduate programs***

From the beginning of the present administration we have been stimulating the programs to build sites. An orientation we made was published in 2004. The programs are stimulated to put in the sites both the technical inqualification about themselves and the content mainly scientific of what they do.

There is a part of this information that we are referring to as "technical". It has to do with the presentation of the program, its proposal, its concentration areas, its research lines, its faculty members with their respective curriculum, the courses taught with their syllabi

and bibliography. Whenever possible, the faculty (and students') production must be linked to its electronic address, i.e., in case it is available in the web. Similarly, the titles of bibliography that have an electronic edition must have a link to them. Moreover, it is important that the selection criteria for new students be exposed, together with the bibliography of the exams that they are submitted to and the requirements of the program.

Whenever possible it is convenient to mention the financing resources that the program receives and how they have been applied.

But the most fundamental issue of all is not this "technical" list but the scientific, philosophical and artistic production that the program has generated. It is crucial to make available as much as possible of the production of the faculty.

Obviously, what is under copyright will present problems. However, the link for an article, even if the periodical has a strict access, is feasible. In the case of books, it is common for the publishers to allow that a small part be made available in the web, for it works as an attraction for its sale – however, the permission must be asked for this. This can even be favored by publishers themselves, since there can be links to the publishing house or to (online or not) bookstores that sell those books.

Moreover, many professors hold conferences, presentations and other types of production, often in power-point format, which, frequently, may be published.

Lastly, in the case of books that are sold-out, many authors may make it available online.

The Federal University of Pernambuco, on our demand, has devised a software that makes easy to create a homepage for a graduate studies program. It uses only non-copyright software and is available at our site. I take advantage of the fact these articles are being translated into English to inform that anyone who will want to use the software may do so, if he or she gives the credit.

### ***3.4 The transparency achieved***

We could and should as well talk about Qualis - the evaluation system for periodicals, events, technological production and books – but this will be addressed in a future article. For the time being, our intent is to show how all this is linked so as to grant more transparency to the system.

We may begin by any of the legs of the tripod that we have described, but the most interesting thing is to start by the site of the course, whenever the course has one (it is not compulsory, but it is highly recommended and is foreseen in the evaluation file as being part of the grade generation). We see how the program is presented, what its production is, who are its faculty members and its results. In the case of some institutions, they have their own sites with dissertations, a fact that facilitates the retrieval of inqualification. On-line dissertations and theses are not only a contribution for the scientific knowledge but they also allow us to see in practice what quality of academic work a program has. Lastly, the file shows how the program was evaluated, with its weak and strong points.

This process gives the evaluation more transparency than ever before – and the best proof that we trust our system is the fact that we are making public a volume of inqualification that, when matched, will explicit the process very clearly.

#### **4. The evaluation criteria**

Capes has its evaluation criteria for each one of the areas of knowledge it encompasses (45 during the last Triennial Evaluation, 47 since the beginning of 2007, when Biotechnology and Materials were created). The criteria are the crucial issue in evaluation, because they are a focus of sundry confusions and misunderstandings.

##### **4.1 *Scientific production***

We may say that the first and foremost Capes criterion is that if anyone wishes to be an advisor or even a lecturer at graduate level it is a condition that he be a researcher. In the undergraduate level we understand that it is necessary that the professor have good didactics, even if he does not conduct innovative research (however, he must be updated with the results of state-of-the-art research). In the graduate level, the number of classes is lower and this is why the issue of good didactics is less important than the quality of research that the lecturer produces and leads his student to get involved.

In other words, only one who is able to conduct research is able to teach research. This requires a first concern, in other words, how the research is measured. One of the biggest illusions about Capes is the so-called “productivism”, i.e., the idea that the agency only wants to know if and how much one has produced. This is not true. What really

matters is the *quality* of what is produced. As a matter of fact, we can only know about the scientific production when it is published. This is when it becomes fecund; when it is subject to criticisms, that may be devastating, but very often have a constructive effect and when it may influence readers so as to quote them in their own research. Publishing is then a way of making the production available by socializing it.

How does one measure the quality of a published research? In many areas, there is the impact factor. Firstly, this is measured by taking a journal, verifying the how many quotations qualified journals have made of it and dividing the total number of quotations by the quantity of articles published in that issue. Thus, if journal A has published 20 articles that have been quoted 100 times, its factor of impact is five. However, if in other publications only a reference to one of those articles has been made and nothing else, the factor is 0.05 (i.e., one divided by 20).

This is a very sophisticated measure. It means that one does not *only* measure the quality of the journal, but its “impact”, or, in other words, its fecundity. A work may be good but not necessarily originate a new research. It will not be quoted and, therefore, will be somewhat sterile. But this is not a flaw of the impact factor. It happens that it measures how a publication contributes so as to constitute a scientific community, not just the quality of the isolated articles. Quotations mean that one is building an environment of discussion, a critical mass that will allow the area to advance. (By the bye, this is a could reason to put in the web the dissertations and theses that have not been published either in periodicals or as books: they will have some impact, and sometimes a surprising and unexpected impact, as the thesis that has been downloaded 4,000 times in around a year).

The fact that an article has – or has not – been published in a journal of higher impact does not mean that, on an *individual* basis, it will have the amount of quotations that corresponds to its impact factor. The factor is an average. However, it indicates that publishing in a recognized paper gives you a higher probability of being read and, thus, of influencing in further research. One then sees the importance of a selective and rigorous editorial policy. The better are the articles published in a journal, the higher are the chances that it will be read, and so on.

What I have just said counts basically for the journals. Each area of knowledge establishes its hierarchy of journals (and other

productions) and publishes a Qualis, i.e., the classification of their quality. Areas that publish mainly in journals will evaluate them usually according to the impact factor, the newly-created H-index, and their presence in consecrated databases as the World of Science or MedLine. Areas that also publish the results of their researches in books will probably evaluate their journals on a more artisanal basis.

Since we have five main types of production – periodicals, event proceedings, books, patents and artistic production – each one must address its specific challenges. We already have a Qualis for journals, for congresses (“eventos”) and for artistic production. In 2007, for the first time, the areas that have their strength in the production of books have been asked to make a systematic classification of quality and/or impact of this other type of publication. (A few areas, as Geography, Business, Education, and Social Service had already done this in 2004. As a whole, we have around 20 areas – almost half of the total sum – that deem publication in books to be important).

#### **4.2 *Distribution of the scientific production***

But would it be a good sign for a given program, if one, two or three of its faculty members were responsible for the whole of its scientific production, while others would only teach and advise? What we are aiming at is a balance in the intellectual production which can ensure that a student will be advised by a true researcher and not by someone who bears no experience in that area of research. Of course, this balance must take into account the difference between senior and junior researchers, between more mature and younger faculty members, which means that balance is not strict equality.

This is what we call the *distribution* of scientific production. In order to give a program a good degree, many or maybe most areas require that at least two thirds of its faculty members should respond for a rhythm of publications of a determined quality - so that students can have a good chance of being taught and supervised by teachers that truly do research. In other words, a course that is “very good” is not the one who has two or three excellent faculty members and twenty that are just regular. It is a course that has its balance in the “very good” and, therefore, assures to its students that there is a high chance of having faculty and advisers that are in this level.

### 4.3 *Qualification of masters and doctors*

If we were only concerned with this, we would be making an evaluation of research groups. CNPq, our sister agency, has an important directory of research groups, that can be found opening its URL, [www.cnpq.br](http://www.cnpq.br). But the concept of research group lacks something: researchers do not necessarily train or educate new researchers. Historically, Brazil began its evaluation addressing the graduate studies programs, which answer to the scope of Capes (its name, literally translated into English, would include “the improvement of higher education personnel”), and not research groups as such. We remarked a few pages ago that almost all the research being done in Brazil is produced inside and by graduate studies programs. This means that an evaluation of graduate studies programs must include everything that is needed for the evaluation of a research group, but the assessment of the quality of researchers as such would still miss something. Our main “product” are neither articles and books, nor dissertations and theses, but masters and doctors who will use the knowledge and experience acquired to act for forty, maybe fifty years in research or in its career. Papers, dissertations, theses are *means* to arrive at those *ends*.

It is thus crucial to analyze how the *Bildung* of our masters and degrees is achieved (personally, I dislike the word *training*, since it involves the acquisition of certain abilities rather than the reflection that distinguishes a researcher). Some areas demand that the dissertation or theses result in publication of a determined quality level. Chemistry, for instance, is radical: it only considers the scientific production of a faculty member when he/she includes a graduate student as a co-author. A solo masterpiece would not count. Here one is able to see how the area is far from being “productivist”, meaning it would literally follow the old motto “publish or perish”! However, in areas that do not have a co-authorship tradition, as in the Humanities, it would be difficult to adopt this criterion. Other areas only read some dissertations and theses generally submitted by the programs – a fact that brings the risk of distorting the result, since only the best are submitted to their review. With the availability of dissertations in the web, it is possible to evaluate the quality of a higher number of these and this has the additional advantage of allowing the community – of a certain area or of several areas – to replicate Capes assessment. Without a *hybris*-like scope of giving evaluation a scientific status per

se, we should at least remember that one of the main features that characterize most sciences in our days is the ability to replicate an experiment.

#### **4.4 *Balance in the qualification of masters and doctors***

As it is a bad sign to have the quality of intellectual production concentrated on a small number of members of the program, it is also negative to have the advising done only by a small amount of them. Let us adapt the example aforementioned: imagine that two or three of the faculty members concentrate the biggest amount of advising of a course, whereas twenty have a small performance. What we wish is that the faculty member who conducts research be the same who advises. If there is a “specialization” of some in advising, others in teaching and others in research, the result will be that the advisees will not get real experience in research. This is the exact opposite of what we wish. We will insist: each area has wide autonomy in the definition of its criteria, what it in fact does with the area coordinators holding successive committees and discussing those criteria with the coordinators of masters and doctorate programs as well as with the scientific societies. But the main criteria have their philosophy exposed above. We still have to address one, which we will do later: the one of the social impact. This is something new, that has been considered for the first time in 2007.

### **5. The tools of evaluation**

Along its history, Capes improved its evaluation tools. They were initially paper-based, but in the last years we have intensely used computerized data and tools. Here, we will talk about some of the softwares that we have been using, all of them created by our team.

#### **5.1 *ColetaCapes***

One of our major tools is ColetaCapes (also known as DataCapes), which collects the pertinent data on the production of each program evaluated by Capes. Every year ColetaCapes receives from the programs data concerning their students and faculty members, especially their scientific production – including that of the future masters and doctors – and other informations considered important for the evaluation of the course.

A new tool, created in 2005, the Students *Cadastro* (or Register) receives the information that must be promptly updated – e.g., the names of the students that got their degree (and, if they are bursaries, need to be replaced by other students), their dissertations and theses (which will go to *Dominio Publico* website).

Since 2007, *ColetaCapes* has become permanently open and it is no longer necessary to wait for the coming year so as to send the data of the previous year. This happens program coordinators and their team to fill the details that refer to completed actions that neither need to wait for the end of the year, nor have to be sent to *Capes* as soon as they got their completion – for instance, a course by a visiting professor.

Finally, *Coleta* allows us to import data from *Lattes* curriculum, a tool devised by *CNPq* and which allows all researchers to detail their production. It is recommended that graduate studies faculty update their *Lattes* c.v., at least just after the end of the calendar year, so that their data can come to *Coleta* in the beginning of the next year.

The *Coleta* is the basis for the evaluation of all programs. Data that have been collected will be analyzed – sometimes also audited – and will thus give the evaluation committees the inputs they need to do their job.

## 5.2 *Qualis* or *Webqualis*

For many years each area of knowledge at *Capes* has established its own quality criteria for journals. The initial idea is the one of impact factor of the scientific journals, but these exist mainly in the exact, biological and health sciences. Areas that do not work with the impact factor, since they publish rather in the shape of books, may then do the *Qualis* of their journals without having to consider this factor, which appears in some bases, but without sufficient foundations.

We had some problems in filling out the *Qualis*. Many journals lacked a *ISSN*, some were informed twice or even more times with slight differences in their names, and a few might not even exist. During 2004-5 improvement in this system have assured that practically all journals listed have a *ISSN*. Our next step concerning the journals is to include in our page the *URL* of each one for the ones who wish to access them.

Qualis of an area generally has its criteria organized in the beginning of the mandate of the coordinator and is updated each year, based on those principles. As today it may be updated online by the consulting committee, it may be called Webqualis.

It is an essential instrument not only to give transparency to the evaluation, but also to advise the researchers about the best place to publish: in the most respected publications where its work will have more chances to be read – and criticized.

### **5.3 Other Qualis**

There is also Qualis for proceedings, which will soon be called *Events*. This will allow for the evaluation of texts presented at congresses, symposiums, meetings, and evaluate their quality. This is also available at the Qualis page. In 2008, the areas that consider books as meaningful scientific publication are elaborating their respective Qualis. There are three models that have been adopted by different areas, and a discussion among all areas concerned has devised some broad lines in order to synthesize the best qualities of each model. Any production that has quality may be the focus of a new Qualis; so the Arts Area has elaborated one of artistic production, and we are presently creating a Qualis of technological products, patents and innovation actions. Capes and other funding agencies have insisted for a long time on the importance of developing new technology; henceforth, it is our duty to evaluate what is created in this field and to give it the merit it may deserve.

### **5.4 Specific Spreadsheets and Evaluation Files**

The area committees may request specific spreadsheets for their evaluation work. A simple example would be: how many productions a certain program may have had, already duly considered by the Qualis, and how many faculty members are responsible for them? It is obvious that such spreadsheet will also include the division of the products by the producers, i.e., it is a kind of production per capita – if it were not like this, the programs with many professors would also be better rated than the small ones. Many other spreadsheets can be created on the basis of the data Capes has collected.

The crucial points in the quality of a course are evaluated in the evaluation files (do not confuse with the recommendation file, that is issued when a new course is examined – and approved or not). Up to

2004, we have had a file with six items, including the background of the faculty, the quality of the dissertations and theses, the production of the students and faculty; however, it was outdated. For instance, it asked how many of the faculty members held a PhD degree. Now, with the exception of some professional master programs, *all* faculty members in our programs must have a PhD. This item was thus outdated and the same happened to several ones. This implied that, although each item had a certain weight in the file, the final grade could *not* be the one resulting from partial grades and respective weights. The area committee would often arbitrate and give a grade that would differ from the sum of the different items. This has jeopardized the transparency we are so keen about.

This is why the Scientific Technical Council created in 2003 a Committee to elaborate a file proposal. From 2004 to 2006 it was widely discussed, among a public of around 2,300 researchers, including obviously all program coordinators. The new file is simpler. The six previous items have been reduced to three: faculty members, intellectual production and student production, dissertations and theses.

A new item – social impact – was created with a smaller weight (10% of the final grade). The final grade now has to be the one resulting from the partial grades with their totals. There are two conditions only: if the final grade a borderline one (let's say, between 4 and 5) the committee may choose what it considers most appropriate. The second one is: the Scientific Technical Council may change the grades of the committees considering its rights of conferring the area evaluations and of making sure they are convergent and equivalent.

As a matter of fact, each area has autonomy to define peculiarities in its file, and an example of this is that indeed we could say we have 45 different files. For instance, Arts is the only area to consider artistic production. If the reader wishes to consult an evaluation file, the best way is to access *Cursos recomendados* (recommended courses) in our website and then the link “Dados”, which shows the data the program has entered in *ColetaCapes*, and after that the link “Resultados”, where he may open the files of the last several years. He or she will read the evaluation files of the Triennial Evaluations of 2001, 2004, and 2007, and the annual follow-up files of the other years of this century. The difference is that only the Evaluation confers grades,

while the intermediate years show only an appraisal of the annual performance of the program, with its assets and liabilities. It is possible to consult an area file or areas of one's interest to see what each one of them considers as the biggest highlights. Of course, the files from 2006 follow the new model.

## 6. Social insertion

One of the biggest novelties in the evaluation sheet of the *stricto sensu* graduate courses is the inclusion of a new item, the one of *social insertion*. This has a fixed weight of 10% in the evaluation of academic masters and doctoral programs (which are all considered academic). In the case of professional masters, the evaluation area may determine this weight between 10% and 20%, considering that this level of title may – and should – be characterized by a higher social impact.

This innovation is very important because it means the official recognition by Capes that the graduate program has a social responsibility and should, therefore, not only improve science but also the country. As a matter of fact, in some cases, as ecology and environment, we are going farther than the country and talking about *world* improvement. In other words, the *presupposition* of the evaluation is that faculty members be specialists in quality. The demand for good research (for a bad researcher will not qualify a good master) is the pre-condition for a graduate program to work. On the other hand, the end of graduate programs is to qualify good masters and doctors. We know that if we were to evaluate only the excellence of the group, we would examine the excellent Directory of Research Groups at CNPq. We have already remarked that our evaluation is centered in the way researchers prepare and train masters and doctors. But, with the introduction of the item *social insertion*, we go a step further: we also wish to see how these masters and doctors, besides doing their research and forming their students, address crucial challenges for society.

### 6.1 *Autonomy*

Each one of the 45 (now 47) knowledge areas defines in its own way the issue of social insertion. As an example, we give here four examples of impact and the CTC suggestions about each one of them.

1. **Technological/economical impact** – contribution for the micro regional, regional, and/or national development, highlighting the productive advances generated; increase in productivity; technical dissemination and knowledge that may improve the economical development, always taking into account its social and environmental effects;
2. **Educational Impact** – contribution for the improvement of primary, secondary, undergraduation, technical/professional education and for the development of new innovative proposals in education. An example of such contribution in this field, possible to occur in several areas, would be if the program produces text-books for undergraduate level and didactic books for primary and secondary schools. Nevertheless, we recommend that these courses be graded high only when they produce excellent or very good quality material. The aim of this idea is to stimulate the production of this kind of work only when they are excellent or at least *very* good because, if they are average quality or only good, they will not result in something truly new and will keep the professor away from other priorities for the development of the program, such as scientific production and student advising;
3. **Social Impact** – qualification of human resources for the public administration or for the civil society who may contribute for the enhancement of the public management and the reduction of the social debt, or for the qualification of a public that will make use of science and knowledge;
4. **Cultural Impact** – qualification of human resources for cultural and artistic development, formulating cultural policies and widening the access to culture and arts and to the knowledge in this field.

## 6.2 Extension

In a top university it is common that the extension be the “poor cousin” among the different activities of the institution. It is understandable. The strength of a good HEI is in its graduate courses. It is the latter which, by articulating research with qualification of already graduated students, assures the quality of higher education – and makes sure it is not limited to teaching only. Thus, if we take a distinction rather common in Brazil in the universities, we would say

that the Provosts of Research and of Graduate Studies work together (and often they are not even separated), that the Provost of Undergraduate Studies is ranked immediately below them of him/her, and the Provost of Extension is the less important among them. There is no doubt that the extension is important, but many times it is too vaguely defined. In the new item of Social Insertion, we in a certain measure address Extension but we only consider it if it obeys to a coherent policy. What we are valuing in graduate programs evaluation is an extension that causes social impact, which is planned and efficacious in the conduction of its objectives so as to transform society. Let us look at some examples:

Healthcare, for instance, may be a valued extension in social terms. But for the graduate level, what matters is – for instance – if a program of collective health has revolutionized the network of attention and not how many sick people have been seen by medical doctors. What we are considering is the power of social transformation that graduate studies do have. This means that routine activities or simply socially meritorious ones, but that do not imply structural changes in society, will not be considered for the evaluation of the graduate level.

Structural changes, I said, but which? There are many ways to qualify this aim. We may change the attention with health, as a good masters program may (maybe a more professional one than academic). We can change the teaching of science, as this area has been doing, especially with their professional masters. In so doing, however, it is very likely that they will also change knowledge. We are not aiming at a mere application of knowledge for realities that claim for it. When we are in the field of graduate studies, it is important that social work give feedback to research and qualification. A graduate course as such should not work on its automatic pilot and in a repetitive way, as in an assembly-line process, only multiplying good practices for the needy. This activity is legitimate and must be executed, but it is not the mission of the master and doctorate programs. *A course that does not modify, that does not conduct a self-criticism, will not be a good masters or doctorate program.*

Therefore, also in the case of actions that are macro, planned and successful, if they take a cruising rhythm, in which there is nothing else to alter except for applying a method that has been working, then the ideal is that they no longer take part of the evaluation of graduate

courses, but start taking part of public policies. At this moment, the university may and should cooperate with society, be it the elected powers, NGOs, and private and community institutions in order to grant a lengthy character to the impact that the research and the qualification have generated. Or, as it is commonly said, to give a boost. The graduate courses will have gained an important result, but their role as a graduate course will be to continue its quest for improvement.

## **7. Professional master, academic master and doctoral programs**

The professional masters courses were regulated by Capes Administrative Rule 80/1998. This does not imply that it didn't exist before. The spirit of Newton Sucupira's *Parecer* (Portuguese for an opinion that has legal force), which is the founding text of graduate studies as they exist today in Brazil, was to incentive research. As a result, it had an academic trend. However, already in 1998 there were several master courses with a more professional perspective. Capes' present administration has been stimulating the creation of professional masters. For instance, in the 2007 submission of proposals of new courses, a record of 30 professional masters were approved.

What is the difference between an academic masters and a professional one? In 2005 Capes organized a seminar called *Beyond Academe – graduate studies serving society*, in which several results have been reached and were later published in our *Revista Brasileira de Pós-Graduação*, that can be accessed online in our site. Let us summarize them:

First of all, the Professional Masters is a terminal title, which differs from the academic one, because the latter prepares a researcher, who will continue his career writing a PhD. With the professional master degree we want the student to know and really conduct research during the length of his studies, but that doesn't mean that he will continue researching afterwards. What matters is that he or she (1) acknowledge by experience what is to research, (2) learn how to locate, in the future, research that is relevant to his profession, and (3) be able to know how to work with research both already existent and future in his professional work. Nothing of this is trivial. As a matter of fact, this third topic is quite difficult. This is why a professional masters cannot be considered as a made-easy Masters Course, as a downgraded graduate studies program.

We must highlight have the distinction between the professional masters degrees, that are part of *stricto sensu* graduate courses evaluated by Capes, and *lato sensu* graduate courses, or specialization courses that neither are nor are legally bound to submit to the rigorous criteria of Capes. It is worth noting that a person rarely takes two masters or two PhD courses, but can reasonably take three or more specializations. One of the purposes of the specialization courses is to provide an update in the knowledge someone has, whereas any kind of Master course demands research, which results in a major change a person usually does only once in his or her life, as he or she becomes a researcher – that is what anthropologists call a *passage*. It is much more than updating information. It tells about changing people.

### **7.1 Priorities**

There are two priority axes in professional master's courses. The first aggregates competitiveness and productivity to either our private or public companies. Within this policy, a great deal of Professional Master's course (henceforth MPs) is offered by Engineering and Business schools. The second axe aims at the improvement of management within social sectors of the government (Federal, State or in the municipalities) as well as of NGOs and any other civil society organization. This is the case of a growing number of MPs in Health Management and Public Health. This might be the case of still non-existent MPs in Education, Culture, Sports, Public Safety and Human Rights Management. It is our understanding that MPs add quality both to the production of goods and services and to the endeavors of our society to reduce injustice and fight misery. CAPES Board of Directors and several of our area coordinators have been stimulating the creation of new courses in this modality. But CAPES policy means they must be analyzed as rigorously as any other project.

### **7.2 Some Difficulties**

The great problem lies in the MPa offered by public institutions. As Brazil Constitution of 1988 states – for the first time in Brazilian history – the gratuity of public higher education, it is understood that State-owned institutions may not charge the student of a MP, even if the course will grant the student financial advantages. However, the National Board of Education endorsing the idea stated in the administrative rule 80 aforementioned (article 6: Professional master

courses should be self-financed) states that MPs from State Institutions can be financed either by companies or by other State Organizations such as Health Departments, in the case of a not so hypothetical MP on Public Health.

However, it is easier for private institutions to create and maintain a MP, for they do not need to negotiate financial support every time they open a new edition of the courses as it always happen to state institutions. Actually, public HEIs will open successive editions of their MPs and not every year, while private HEIs can open them on a permanent basis.

Concerning this recurrent problem, CAPES advises that State institutions should not do a mere selection for a MP but to establish a policy or create a “package” to deal with them, such as:

1. To make a diagnosis of the problem to be faced (e.g. low productivity in an industry sector or inefficiency in a Health Department);
2. After this, to offer a problem-solving course in which the students must devise in their final paper a course of action to solve some aspects of the problem;
3. To offer at the same time a course for technical qualification in which the students will work as collaborators for the professional masters coming out from the MPs.

It would be wise to suggest that, differently from academic masters courses, the MP should not be taken immediately after the end of the undergraduate degree. The students will benefit from the course more if they have already worked in their field, thus conveying professional maturity.

### **7.3 News**

In 2004, the Presidency of Capes stated to the area committee which were doing the triennial evaluation that Professional Master Courses should have their own evaluation, instead of simply replicating or repeating the evaluation of the Academic Program to which it belonged.

In the past three years, the CTC established the conditions for MPs evaluation in terms of what they are instead of what they are not:

1. A specific evaluation file in which the topic of social insertion may consist of 20% of the final grade against the 10% in Academic Courses and which give special value to the student final paper;

2. A specific evaluation area committee, including, whenever possible, a coordinator of the would be patrons of these professionals;
3. To sum up, the MP must be evaluated within the same CAPES parameters for master's – the grade ranging from 3 to 5 for accredited courses – but must be evaluated in terms of what it is, not in terms of what it is not.

#### **7.4 Academic Courses**

Considering CAPES lexicon, Professional and Academic Masters as well as Doctoral programs (which are always considered academic) are known as 'levels', 'courses' or 'modalities'. A program may consist of until one academic masters, one professional masters and one doctorate. Academic courses aim at forming researchers, being the Master's the usual way to doctoral level. However, it is possible to pursue a doctoral level without going through masters provided the student shows an excellent academic performance.

Is it possible to consider some master's and even some doctoral courses as intrinsically professional courses? This is a polemic subject. When the student finishes his graduate life with an academic master's degree and this allows him to succeed in his profession, wouldn't it be the case that his course was in fact a professional course? This is a topic that CAPES is still debating.

### **8. Solidarity and cooperation in the evaluation os graduate programs**

Graduate courses and their subsequent evaluation by CAPES have always been seen in a more competitive than cooperative way. To explain this point of view, we use a metaphorical scenery, that is, the Olympic Games which at every new edition demand more from its competitors: the bar in the pole vaulting is always higher. As the same can be said of scientific production, it is natural that the demands are constantly growing; if a program does not increase its quality, and fails to modernize and have good production, it is bound to lose one grade in one or two triennials. Besides, as evaluation is necessarily a matter of comparison, when its moment comes there is always an unnerving feeling among areas and their programs, once they are going to be confronted and compared.

This is the competitive element inherent to every evaluation system. It will necessarily to generate a hierarchical classification which yields a great many positive effects: 1) it stimulates a better performance due to the external evaluation; 2) it gives more autonomy in management and search for funds to programs that are doing well in their performance; 3) it serves as a guideline to candidates in the search for the best courses.

However, the present administration of Capes is very much concerned about checking and balancing competition. As a matter of fact, there are two important issues that converge one to another. The first one, already discussed, consists in understanding that the evaluation, by its nature, must take more into account the qualification of highly qualified people at the same time as a high quality scientific production. The second is that the competitive element should be balanced by an incentive to cooperation.

### **8.1 *The cooperation item***

In the evaluation file topic concerning faculty members of the program, we have included an item addressing cooperation. The idea is to acknowledge the merit of both the most qualified programs that help those that are beginning or in need of help as well as the latter that, by recognizing its limitations, seek for a better partnership to help overcome their problems and develop their potentialities.

### **8.2 *The solidarity item***

After programs have been evaluated ranking from 1 to 5, some of the best ones will be considered in order to get a 6- or 7-grade. We change to another level – the one characterized by international insertion and quality – and criteria are more rigorous. And also a new criterion comes to the fore, the one of solidarity. In 2007 Capes started taking into consideration, although in a moderate way, if the program to receive higher grades has any politics towards grade-three (or sometimes grade-four) courses from less developed regions that are from the same area of knowledge or from a related one and could benefit from their help. For the next triennial, it will be necessary to develop ways of measuring actions of solidarity. We already have tools to practice it, as several programs that allow for student and faculty mobility, and also for what we call Minter and Dinter, meaning

a master or a doctoral course that is offered in a different HEI from the one where it has its seat.

Receiving students from other regions for the doctoral program may be another way of measuring solidarity. But it is important that this solidarity practice be included in the program policy, if possible strengthened by the area of knowledge and/or by the HEIs involved in the process. It is important to point out that the outcome from a punctual action (that might not even be taken into consideration in the evaluation process) is totally different from an action that derives from a strategy to strengthen the area of knowledge and the region in question.

It is also necessary to define what we consider less developed geographic regions. Until now, CAPES has been working with the concept of State. Our data specify graduate programs by States and in our site displays the States, their programs, areas of knowledge and grades.

The problem is that only five states in Brazil, out of 27, the tiny Federal District, have a good distribution of programs in their territory. There are 22 states in which graduate courses orbit the capital area. The exceptions are São Paulo, Rio de Janeiro, Minas Gerais, Rio Grande do Sul and Paraná. The reason for such a discrepancy might be that Rio Grande do Sul and Minas Gerais have a great number of Federal HEIs and the other three have several high quality state universities spread all over their territory. However, even these richest states include less developed regions: the Jequitinhonha Valley in Minas Gerais, the Baixada Santista in Sao Paulo and Baixada Fluminense Rio de Janeiro lack the graduate studies courses that could face their problems and help developing their potentialities.

## **9. Transparency**

Now that all the area committees have finished their job (*written in September 2007*) and their proposals are about to be reviewed by the CTC it is imperative to summarize the topics that focus on transparency efforts.

### **9.1 Truths and misconceptions about the Evaluation**

I do not like the expression “truths and lies” because lie implies an intention while mistake or misconception is simply an error, sometimes a naïve or unintentional action. Let’s see some of them:

### 1. *The productivism*

There is a well spread belief that Capes favors the “publish or perish” motto meaning that the more you write and publish, the better. This is a fatal mistake. Whoever thinks that 52 articles in less read journals have the same value as an international paper is on the wrong side of the tracks both for Capes evaluation of programs and for CNPq evaluation of research grants that are awarded to the most productive scientists. Qualis is the tool that measures the quality of papers (and books, events, patents, etc.) It means that a good scientific production is worth more than the sum of less important productions. More than that, in some areas of knowledge, there is a limited number of less important productions that may be taken in consideration for the evaluation. For the sake of the argument, let us suppose that a program presents 50 papers published in local journal with a C grade, each of them receiving from CAPES 1 as a score. One international paper A in the same area receives 25 as a score. Thus, those 50 papers that belong to the lowest rank at Capes would be equivalent to 2 A papers that are in the top of Capes rank. Well, this would be a mistake: in several areas and probably for all areas in the next evaluation there will be a maximum limit for products that are not in the higher ranks of Qualis. There might no limits for the best papers but, say, only one local paper would be considered by faculty/year. Limits can vary but they express a very clear philosophy: quantity is valued if it has quality.

### 2. *Quantities*

It is possible to argue that what evaluation does when it measures productivity and generates indicators is equivalent to what happened to modern science in the 17<sup>th</sup> century – to transform quality into quantities, to render the world *measurable*. It is difficult to compare, let’s say garlic with pears, but if we analyze their chemical components or their effects to alimentation, we are able to develop a common measure for both. In our case, our reference point to build up comparative scales is the number of master’s and PhDs graduates formed by a productive researcher. No matter how different the areas are, they are forming masters and doctors (fair/average/good/very good). No matter how different they are, we can know if they produce good or bad science. This is what allows us to make comparisons as well as to compare the performance of our programs in relation to the top of line programs of the world.

### *3. The Public Aspect of the Evaluation.*

The evaluation is open to public. In the past years, we have done our best to improve several of its aspects. First of all, we can say that now we have a friendly-evaluation file, for it is more didactic and shows with more clarity what aspects the program should improve. Second, thanks to the aforementioned *Dominio Publico* site, it is possible to access and evaluate the quality of most theses and dissertations. Third, by means of a free software that can be downloaded from our site, we stimulate all programs to have their own webpage.

### *4. The public of our evaluation*

We have been trying to expand the public of our evaluation. For a long time, CAPES evaluation had as its main interlocutor a highly specialized elite responsible for the culture of evaluation at CAPES. Since the electronic age and the internet, there has been a growing number of people who are able to access and get to know the evaluation. The evaluation files have been on the web for several years, but it was difficult to understand them. Now the tools necessary for their best understanding are available. Now we have a sort of informal tutorial or glossary of evaluation. We want Capes' webpage to be a constant reference to any of the groups to whom the evaluation is of service, as we can see below.

### **9.2 To whom is our webpage addressed?**

The first group that should be interested in accessing our page is the full number of our graduate teachers and professors (about 38,000 people). Evaluation must not be the exclusive realm of program coordinators and a small group of researchers besides them. Its principles need to be known – and improved – by the whole scientific and academic community.

The second group is composed by master and doctoral students. Programs are evaluated for their benefit. Thus evaluation cannot and must not be understood as a punishment. If a course climbs down the scale of grades it is because it has lost quality. Therefore, the students should not be angry at the thermometer but be worried about the fever (or more severe, the infection). It is necessary that they learn how the evaluation functions (as it is the great tool that legitimates the programs) to be able to make just demands to their programs.

The third group is the one composed by would-be graduate students. The evaluation file, the site with dissertations and theses, together with the programs web pages, form an important source of information allowing them to choose the most adequate course for their studies.

The fourth and last group comprises people in general. The graduate courses represent an endeavor of our whole society. Graduate courses are funded by the society. Even private courses receive money from the Federal government and sometimes from their state governments in terms of scholarships and other grants. Therefore, they have to account for what they do.

### **10. The graduate program and the geniuses**

The anthropologist Eunice Durham, my colleague at School of Philosophy, Letters and Human Sciences at the University of Sao Paulo, has been president of Capes in the 1990s. During her term in the office, she was once invited to visit our school and then criticized her non-productive peers. One of the faculty (a person whom I dearly respect and who is really productive) present on the occasion stated that if Capes continued with this policy, Spinoza (who published just a few papers in his life) would never be accepted by the evaluation agency as a worthy faculty member. Professor Durham then answered that the problem is that everyone that does not publish dares to consider himself a Spinoza.

We could read this speech as a bad syllogism: Socrates has written nothing at all (first premise); Socrates was a genius (second premise); someone who writes nothing is a genius (conclusion).

Even intuitively it is possible to realize that there is a serious logical mistake in this line of thought. At most we could only infer from the premises that *even* someone who does not write anything can be a genius. We could never conclude that every person who writes nothing has a strong intellectual quality.

We can also point out the changes that have happened in scientific production. At the time of Socrates, in the 5<sup>th</sup> century BC or even in the 17<sup>th</sup> century AD, when Spinoza lived, the costs of a scientific research were extremely low, and research was made by individuals, not groups (although we must remember that there were schools and students in Athens and that Spinoza is contemporary of the English Royal Society which refused to accept Thomas Hobbes as its member).

Today, without a net of interlocutors, good libraries and laboratories, little is made in terms of science or in terms of producing knowledge. But the question still holds: Does a system that is based on external evaluation and that favors scientific production in the best journals or editorial houses help or hinder the emergency of geniuses? I think I have shown above that some criticism voiced against Capes, such the so-called “productivism”, can only mean that some people do not have an idea of what is our evaluation.

Let us change now to another level of discussion. First of all, today we have a scientific system of high quality, which can appreciate the quality of every new work that is submitted to evaluation. But there are works that the system refuses as bad. People who deny the legitimacy of any serious system of external evaluation, peer review and other criteria aforementioned often claim that the system is biased in order to favor only the ones that are already in the system (its *insiders*) in detriment of the *outsiders*. Of course this can happen. However, it is a duty of the evaluation system to reduce and minimize the risks of preconception against what is new. Any serious scientist is able to acknowledge the quality of a work, even if he does not agree with it. Or at least he should be able to accept it and distinguish what is good from what he aggress/disagrees. Quite often science is the realm of conflicting theories or hypotheses. Anyway, empirical data show that just a fraction of what is rejected does have quality. No matter how much romanticism has praised the idea of the misunderstood genius, the syllogism “I am not understood. A great scientist, artist or thinker was misunderstood, therefore, all the ones who are misunderstood are great (scientists, artists or thinkers).” is false; the conclusion does not follow from the premises.

### 10.1 *Geniuses*

We must acknowledge that there are indeed some people hard to quantify that break the common/accepted patterns and create/produce a masterpiece. The romantic myth would not be so strong if it were not based on some threads of reality. For sure there are misconceptions as the well know story about Einstein being a bad math student; what is true is that the grading system in his country changed the arrow of the scale (1-10 for 10-1); in truth he had always been a good student. But we also know that what is new tends to be rejected even if it may later conquer the recognition it deserves. The true question that arises is if a

peer evaluation system facilitates or hinders the emergency of a mastermind? Or whatever is new? We must give it a very qualified answer.

We can assume that if we have a great number of researchers in Physics or Philosophy that share their ideas and develop their common knowledge we somehow promote the possibility of some of them reaching by their originality the status of geniuses. On the other hand, it might work the opposite way: if they reach homogeneity they will closed themselves to any innovation. I tend to give credit to the first option, but I must confess it is an open issue. Besides, it is never easy to reach innovation or ingenuity.

We could then reroute this question and formulate two hypotheses. By the way, it is important to point out that the ideas discussed in the present item are mine; they do not reflect the institutional thought of Capes. They are not ideas from the director of evaluation; rather, they are hypotheses from a professor who has learned something with and inside Capes, as well as outside and without Capes. They do not oblige neither Capes nor me: they are like the ideas that Rameau's nephew send to roam at will, in Diderot's book. Walking has always been useful to thinking. So, the first hypothesis is that a genius is not really dependent on his degrees or even peer recognition. If we consider in a very strict way a genius as someone who between respect for conventions (needed in terms of social conduct) and creation of the new tends to balance to the latter, then we could say that this person will very likely have difficulties in social skills and can be obsessed by just a few (but excellent) ideas.

This hypothesis could be reinforced by A. J. Toynbee's theory of challenge. Toynbee, a historian nowadays remembered by just a few, in his work *A Study of History* argues that civilizations are born not due to racial or environmental factors, but as a response to *challenges* (the reason for some paradisiacal places never achieving great development), but not excessive challenge that will crush civilization (the reason for little development in deserts and icy areas). It might be the case that ingenuity has to do with challenges. Thus schools for geniuses would not be the best way to make them develop their potentialities. Hardship (without being extreme) would be the way to developing ingenuity.

The second hypothesis (or question) is whether the mission of evaluation – and by extent of any state support agency – is to form

geniuses. As I have suggested above genius are not formed from the outside to the inside. They may be helped to develop their skills (rather by challenging them) but they self-made. Thus, what society or the State can do is to help forming a very significant number of people able to develop research and help with the growth of knowledge. Eunice Durham was right: not all unproductive people are Spinozas; and we could modestly add that it is not in our hands to form Spinozas and Socrates.

All that said, in this article of mine that, among all others, represents a very personal point of view, what we need is not only to form very capable people but constantly to instigate them to criticize the system itself in which they were formed. For these past years, we have been discussing evaluation a lot. We believe that it has certainly improved, but it is necessary to check all the time ideas and statements that we have been accepting. For any researcher, I would recommend the motto that we can read in Nietzsche's *The Gay Science*: "I have always mocked a thinker that has never mocked himself". Auto-criticism is always enlightening.

## 11. Authority and power in the evaluation

Rousseau, in his famous *The Social Contract* (1762), attacks the so-called "right of the strongest". Rousseau asks "what kind of right is that which perishes when force fails? The word 'right' here adds nothing to force: in this connection, it means absolutely nothing". *The Social Contract* is a work on power; where Rousseau uses "right", he could use "power". In other words, power is not force. There is force when someone must absolutely obey to a pressure he cannot resist. There is power when someone should do something that he is not physically bound to do but still has the freedom to refuse to do. Being forced implies to be subjugated. Being obligated means that a person has a moral or legal duty, but it does not mean that he is "forced" to do something. In other words, we only have duty to do things that we are not forced to do. If I am forced, I do not have any choice. "People always do what they *must* do, because they have no other alternative": it is a physical necessity. It does not mean the same as "ought to" or "should", which convey obligations that can or not be performed, that appeal to one's freedom. Power only exists when people entitle someone for it. The same does not happen to force. Today, we live under a democratic power. However, as a politician from

Minas Gerais used to say in the first half of the 20<sup>th</sup> century, power means the power to arrest and to free persons, to employ or to fire them. Power means signature. Someone is in charge, the others choose to obey or not, but suffer consequences for their disobedience.

### 11.1 *Authority*

There is, however, something that is called *authority* and is frequently mistaken as power. Power and authority are not the same. Authority is normally moral and religious and is linked to some characteristics that empower people to it. Authority is not in the office that the person performs, except when it originates from an outstanding quality: as the Dalai Lama, the Nobel Prizes and members of prestigious academies, for instance.

This distinction is crucial to help us differentiate academic power from academic authority. Sometimes, power within the University is disputed as if it were a battle. What people do not realize or forget is that very often this power is like an empty box. For sure a university president can hire and fire some people, favor or harm them, decide which resources will be spent and where. But if he does not have academic respect, if he lacks prestige in what he does, he risks losing support in the scientific community, thus weakening his own institution. This respect that comes from his quality as a researcher – or any other admirable quality, such as heroism in the time of a dictatorship – is what is called authority.

Academic authority is thus curious: it is not conferred by heritage, money or election. Power can be bestowed by any of these means, but never authority. It is a diffuse process; either we lose it or it win by something that is recognized as positive. It is not the same as fame that may emerge by qualities external to the person. One can be famous only by appearing on television or magazines; but being an authority is not the same thing.

A very interesting example happened with Xuxa, that has been a very influential presenter of early morning shows which were seen by tens of millions of children in Brazil during the 1990's. At the time her name would sell any merchandise, her *Dicionário da Xuxa* (Xuxa's *Dictionnary*) was a failure in the market, because parents believed that the words would be written with mistakes, such as an exaggerated use of the letter X, which was a trademark of hers. In other words, even

the public that loves show business knows that, when it comes to knowledge, what is needed is authority, not mere celebrity.

## **11.2 Evaluation**

What legitimates any evaluation is quality, which depends on several factors. One of them is the scientific qualification of the researcher who evaluates. This quality is itself dependent on the nature of his commitment; he must not be moved by minor or group interests. In fact, there is a strong element linked to the quality of people. It is up to evaluation agencies such as Capes to organize these people – taking into account their scientific and moral reputation – so that evaluation can occur in a proper institutional rhythm.

To accomplish this we must take two steps: the first, as I have been stating so far, is that evaluation is an example of quasi self-government by the academic community, because evaluators are selected by a mix of internal indication from their own community and external control by other segments of the scientific community. An evaluation politically imposed will never be respected. The second step is how to organize this from the point of view of the institution so that it becomes institutionalized and has a minimal debt towards possible individual idiosyncrasies. We are accomplishing this second step with the help of statistics and transparency.

We have already mentioned before the bulk of information that is open to area committees and coordinators – and that is going to be open further to public in general.

There is no precedent in our history in terms of transparency in our evaluation system, a transparency that has been built throughout the last decades and for which we must give the deserved credit to our predecessors. Transparency is positive because it exposes the system to criticism. We are not afraid of critics. What we want is to replace discomfort by criticism. There are people who feel uncomfortable by the evaluation. They have now a chance to evaluate their own evaluation so that they can see their failures and how to improve their programs – and on the other hand we give them the elements to contest evaluation, if it is the case.

In other words, we can only acquire and keep authority when the evaluated are given the possibility to contest the foundations of the evaluation itself.

As part of the evaluation process, once the evaluation has finished, the programs receive their results, not yet public, because they can ask for reconsideration. Once reconsideration is done, the files are open to anyone. Charts and other documents are at disposal for consulting. Consulting the web pages of the programs as well as the bank data of theses allows people to judge those who have judged the programs. And it is clear that whenever an error is found, it is possible to contest the judges' judgment. There is no better way of improving our chances of getting it right than showing that errors are possible to occur.

## **12. The 2007 triennial evaluation has finished (1.0)**

The first phase of the triennial evaluation of 2007 has just ended (*written in the beginning of September 2007*), covering the performance of Brazilian Master and Doctoral programs from 2004 to 2007. Since 1998 it is a comparative evaluation not only inside each area but among the different areas. At every edition we go a step forward in our hard task of making that a Philosophy course grade 6 be equivalent to an Engineering course grade 6 and so on.

We all know that it is difficult to compare different kinds of knowledge, the same way it is difficult to compare roe of a sturgeon to truffles, but we also know that they share common elements such as proteins, lipids, vitamins, etc. We know that what matters to us are the main focuses of comparison, the intellectual production, always taking into consideration the peculiarities of each area; the qualification of highly qualified personnel, such as Masters and Doctors and – a novelty in this evaluation - the social impact the area must offer.

At every evaluation, there is an increase of requirements, the same way there has been Brazilian scientific production has increased 9 times in the past 20 years (the world as a whole has only duplicated its production in the same period). This means that Brazilian scientific production has risen in the last two decades 4.5 times more than world production – and an important part of this result is due to evaluation.

This constant growth of evaluation requirements has helped Brazil improve in science and in the qualification of its PhDs (they have multiplied 10 times in the same past 20 years). A course that keeps today the same level of production it had in 2001 will probably have gotten an inferior grade, for it will have stagnated.

One of the things that are important in this new evaluation, with a new file and new charts, is that today, more than ever before, the

qualification of master and doctoral graduates is taken into consideration. For a long time the main point in Evaluation was the faculty scientific production. It is still a very important factor, we should say *essential*. However, we want to point out that it is not anymore *enough* to reach the top of the scale. Capes evaluates the graduate course and whoever fails in the qualification of very good PhDs may even have an excellent group of researchers, an outstanding Master's program, but will not qualify as one of our best doctoral programs. This has been one of the toughest requirements introduced after long discussions inside the CTC, beginning 2004, and that has been divulged to the community. It is not a *diktat* from the Board of Directors. It is a decision made in dozens of debates in the CTC, since the judgment of requests of re-evaluation of the 2004 triennial.

Before that, *in dubio*, we considered intellectual production as the factor that would decide the grade; now we are happy to know that we demand an additional criterion: good qualification of masters and PhDs. We have also introduced in those areas that value the book as a means of intellectual production the right to consider it, after a due appraisal of its quality. It was not an easy task. There were some evaluators who would praise books but did not want to have to evaluate it. It is much easier to evaluate journals. Journals are series; we evaluate one and make a projection for the future. For sure they pass through constant evaluation, but they are series, not single objects, as books are.

We have elaborated three different pilots for the evaluation of books and soon we will analyze them to see which one is the best candidate for the analysis of such a product. But the mere fact of evaluating books means that more than 20 out of 45 areas of knowledge from Capes have had to do a more complete evaluation than the previous ones, respecting their peculiarities. This number means almost half of the areas of knowledge.

Thus as the emphasis in the qualification of graduate students has increased the array of criteria, the role attributed to the book has enlarged the type of products to be analyzed. Moreover, although only one area of knowledge considers artistic productions, namely the area of Arts and Music, it has strongly dedicated to the creation of a Qualis of artistic production that allows taking into consideration the quality and impact of the latter, from composition to performance.

We have improved Qualis. Today all journals that are mentioned in it really exist. There are no misspelled names or duplicated ISSNs. We hope that soon if someone clicks in one of the titles, one can access its correspondent electronic site. Qualis is becoming proactive. Whenever a faculty or a student wants to know which are the best journals to have a paper published, by accessing Quails, he will be able go straight to the site of an outstanding journal and access its contents or, at least, its criteria.

We are now developing a Qualis of events that will substitute with advantages the Qualis of Proceedings (that is, instead of having the Proceedings of the 56<sup>th</sup> Annual meeting of SBPC that would be a different entrance from the Proceedings from the 57<sup>th</sup>, we will simply have Annual Event of SBPC and at each edition its entry will be of the same format, simpler and practical). We still need a Qualis for patents and products of technological innovation. And it will be done. With this we will have the whole picture of Qualis that allows us refer to any relevant production from the programs: journals, events, books, art, patents and technology.

Special charts have been elaborated. SIR (Results Indicator System) allows, for example, measuring the number of supervisions among the program faculty. I can even know the percentage of professors that advised 60% (or 70, 80 or any whatever I want) of the theses and dissertations. We can establish then if there is excessive concentration in the advisor job (or intellectual production) or if both are balanced. By hypothesis, if 20% of the professors supervise 65% of the dissertations, the division is not good at all. It means that a great deal of professor do not work as advisors.

On the other hand, if 65% supervise 65% of the dissertations, this means that there is no renovation in the program: all are in the same level of production; there are no junior advisors. Intermediary proportions can be positive. It is the same for intellectual production. If it is strongly concentrated among, let's say, 25% of faculty members, the program faces a critical situation. If 30% of them don't produce, it is also a negative point. It is known that our purpose is to have productive researchers advising students. Therefore, a "division of labor" between who produces, who advises and who teaches is highly negative to the main beneficiary of the evaluation – the student. SIR helps measuring this in a quick and intelligent way.

Another chart that we use in the triennial evaluation shows the number of PhDs that have been granted by a program in the last years. Yet another one shows how many of their masters students have done the PhD course (in the same or another program). In other words, it allows us to see for how many students the Master course has been a final step (probably for professional purposes) or one step to a research career.

One of the richest data is the following: to measure the national impact of the programs, we count how many of their PhDs (that received their titles from 1997 on) teach in graduate courses – and we differentiate the ones that teach in the same HEI where they got their titles from the ones that teach in a different HEI. One of our programs graded 7, the program of social History at USP, has 106 of its post 1997 PhDs teaching in graduate courses all over the country.

Finally this system has improved in terms of its transparency. The files are better written, more straight to the point and with a more pedagogical look. The Coordination for Follow-up and Evaluation, after the first examination by the CTC, read 2.266 files and was able to call my attention to the fact that a reporter had forgotten to write the word “must” in his justification for a verdict.

In February 2006, Capes released an Administrative rule stating that for effect of evaluation it is necessary to consider if the program has its dissertations and theses published either on paper or in the Web. What comes out in a book or in a journal is fine, but the rest must be electronically available to our society, that supports the graduate courses with scholarships and several other ways, as well as with public funds that come from Capes, CNPq, Finep and State sponsored funding agencies. In certain areas, such as Law, there are a great number of theses that never go public. This has to change.

This trio – better files, program sites and online theses – gives graduate students and professors an inedited opportunity of checking the quality of the offered evaluation. If a course received the grade 6 or 7 but its intellectual production is poor or its dissertations are weak, the community will evaluate it and will let us know. Thus we have increased the number of subjects capable of understanding the evaluation. With an intensive use of computerized resources we have been able to show what could not be shown before, and could be only examined by the area committee.

Thanks to a remarkable statistics work, we have improved our possibilities of comparing areas, verifying what each of them considers crucial within our basic and solid parameters: well balanced scientific production of quality, a division among the professors of the number of supervisions, good masters and PhD students.

Are there unhappy groups? Sure. 81 programs were closed due to problems in their performance (another 10 were deactivated simply because their IES were in the process of closing them down). They can ask for reconsideration. Some of them will probably win, and because of that we won't divulge their names before the final decision (*written in September, 2007; the final decision was taken in December and then all results were made public*).

To err is human. Did programs that aspired to reach higher grades become frustrated, did courses lose their grades? All of them can ask for a revision. But the criteria were crystal clear and fair and they meet the two main missions of the evaluation.

The first one is focused on the student. We want him to have the right instruments to choose a more adequate course for his needs and, once in the course, to be able to check what is wrong and to question his professors.

We don't want him to only write a thesis or dissertation. We want him or her to be a person responsible for the production of knowledge for the next 40 or 50 years. Just a few of them will write a second thesis or dissertation. Even if someone changes his area (e.g. a doctor in Philosophy that goes to Political Science or Economy; a Veterinarian that becomes a Biochemist) he is not going through master or doctoral courses again. He will go straight to post-doctoral researches. He does not need to write a new dissertation for a simple reason: the qualitative leap represented by a graduate course happens once in a lifetime for most people. A student leaves the undergraduate course in which the important thing was to have a very good teacher and goes to a graduate course where classes are no longer the highlight of the course, he becomes a researcher or, if he goes to a professional master program, he can become a top professional. That is why it is imperative to have a very serious evaluation, because it is the instrument for the student to get a high standard in a truly crucial moment in his life.

The second one focuses on stimulating advancements in the production of knowledge. Without constant supervision of peers in external evaluation committees, we would stay in a comfort zone. We

would repeat what we already know. It is the evaluation, with the minimal budget of 7 million Reais – 1% from CAPES whole budget, meaning 2,000 Reais a year for each course or 3,000 Reais for each program - that sets the pace for progress in science and establishes which programs will later deserve further funding. But at his stage, it is a very cheap process.

When a course is in the process of establishing itself, in special in less developed regions, and we send two consultants to visit it to show the problems it can face and how to overcome them, it is a minimal cost to the country in relation to what it can provide in the future.

There are Master programs and even doctoral programs that only exist because of these so-called “pedagogical” visits that we created, regulated and stimulated. Surely, we are going to increase the number of those visits.

Summing up, evaluation is not intended to punishment. Its focus is on giving stimulus. We are aware that the year of the triennial evaluation is a year of hard competition, but the inclusion of topics such as cooperation, visibility and solidarity turns the balance from the short lived competition to a long-lived cooperation aspect. A course will no longer receive grades 6 or 7 if it lacks solidarity with younger or weaker courses located in less developed regions (or micro regions). Evaluation is not an end in itself; it is a highly economic and valuable means Brazil came up with to stimulate top researchers to form high quality students and the best professionals of tomorrow.

So, why have I numbered the title with 1.0? Because we still have requests for reconsidering the evaluation. We proceed to a second turn in which the discontent ones can plea. They will have all instruments at their disposal. Everything that has been used in the evaluation is public so that they can judge if it is worth pleading or if they should accept the evaluation once it is well founded. And 1.0 because we will continue to improve the systems and criteria, always with the ultimate support and participation of CTC and the scientific community.

# QUALIDADE NA PESQUISA – A VISÃO DA CAPES

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*Renato Janine Ribeiro\**

## 1. Autoridade e poder na avaliação

Rousseau, numa página célebre do *Contrato Social* (1762), ataca o “suposto direito do mais forte”. O que é um direito, pergunta ele, que muda quando muda o detentor da força? A palavra *direito* nada acrescenta, então. O *Contrato Social* é uma obra sobre o poder; onde Rousseau diz “direito”, poderia dizer “poder”. Ou seja, poder não é força. Exerce-se a força quando alguém é forçado a fazer alguma coisa. Há poder quando alguém é obrigado a fazer algo. Ser forçado implica o uso da força, geralmente bruta. Estar obrigado significa que a pessoa tem um dever, uma obrigação, mas que são de ordem moral, legal – mas que ela não está “forçada” a fazer. Em outras palavras, somente somos obrigados a fazer aquilo que não somos forçados a fazer. Se eu sou forçado, não tenho alternativa. “People always do what they *must* do, because they have no other alternative”: é uma necessidade física. Não é o mesmo que “ought to” ou “should”, que enunciam obrigações que, portanto, podem ou não ser acatadas, que apelam à liberdade do sujeito. O poder só existe quando há um consentimento que, de algum modo, as pessoas lhe conferem. A força, não. Nosso poder hoje é democrático. Mesmo assim, é poder – como dizia um político mineiro, poder é poder de prender e soltar, nomear e demitir. O poder tem a ver com a assinatura. Alguém manda. Os outros escolhem obedecer ou não, mas sofrem sanções em caso de desobediência. No mundo atual, embora democrático, o poder se efetua de modo muito forte. Tem efeitos econômicos significativos.

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## ***Autoridade***

Mas existe algo que se chama *autoridade* e que com frequência é confundido com poder. Porém, não é a mesma coisa. A autoridade é geralmente moral, religiosa, está ligada a alguma característica da pessoa que lhe confere respeito. Não está no cargo que ela ocupa, exceto quando este decorre exatamente de uma qualidade realçada: o Dalai Lama, os Prêmios Nobel, os membros de academias prestigiadas, por exemplo.

Tudo isso para distinguir o que é poder acadêmico e o que é autoridade acadêmica. O poder na universidade é disputado às vezes até com aspereza, mas o curioso, e que muitos perdem de vista, é que ele é com frequência uma caixa vazia. Sem dúvida, um reitor pode nomear, dar recursos, favorecer, prejudicar. Porém, se ele não tiver respeito acadêmico, se não for prestigiado pelo que faz, corre o risco de não obter apoio junto à comunidade científica e de deixar sua instituição enfraquecida. Esse respeito, que se adquire pela qualidade dele como pesquisador – ou por outras qualidades, como foi no passado o heroísmo ante a ditadura – é o que se chama autoridade.

A autoridade acadêmica assim é curiosa: não se atribui por herança, por dinheiro – nem por eleição. O poder pode ser conferido por qualquer uma dessas formas, a autoridade não. Ela é muito mais difusa. Perde-se ou ganha-se por algo que é reconhecido como positivo. Não é o mesmo que a fama, que pode se basear em qualidades mais externas à pessoa. Um “célebre e famoso” pode sê-lo porque aparece na televisão, em revistas etc.; a autoridade não é a mesma coisa. Um exemplo interessante é que, mesmo quando Xuxa vendia toda sorte de produto com sua grife, foi um fracasso de vendas o seu *Dicionário da Xuxa*, porque os pais acreditaram que as palavras estariam grafadas com erros... Ou seja, mesmo no público mais afeito ao mundo do espetáculo, quando se entra no conhecimento o que se espera é autoridade, não a mera fama.

## ***A avaliação***

O que legitima qualquer avaliação de mérito é a qualidade. Ela se espalha por vários campos. Depende da qualidade científica do pesquisador que avalia. Depende de ele ter mostrado que não é movido por interesses menores ou defesa de grupos. Há assim um forte elemento ligado à qualidade das pessoas. O que cabe a um órgão do Estado que avalia cursos, como a CAPES, é organizar bem essas

pessoas, de modo que – mesmo dependendo da reputação científica e moral delas – a avaliação tenha um ritmo institucional adequado.

Como fazer isso? São dois passos. O primeiro, como tenho insistido, é que a avaliação é um exemplo de quase-autogestão, porque os avaliadores acabam saindo, por um processo misto de indicação interna e externa, da própria comunidade. Não será respeitada uma avaliação imposta politicamente. O segundo é como organizar isso do ponto de vista da instituição, para que tenha permanência e para que dependa o mínimo possível das idiossincrasias individuais.

Este segundo ponto temos conseguido com forte uso da informática, da estatística, da transparência. Falamos em artigos passados de tudo o que está sendo disponibilizado aos representantes e comissões de área – e que será, depois, repassado ao público. Nunca terá havido tanta transparência no sistema, conquistada ao longo dos tempos, com o devido crédito a nossos predecessores. Mas o que é muito positivo é que, assim, o sistema se expõe a críticas. Não temos medo delas. O que desejamos é substituir os incômodos pelas críticas. Há pessoas que se sentem incomodadas pela avaliação. Agora, elas terão mais elementos para avaliar a própria avaliação, isto é, para perceberem os pontos em que falharam e podem melhorar – ou os pontos a contestar.

Em outras palavras, a autoridade só pode se adquirir e manter quando se dão, aos avaliados, meios para contestar os fundamentos da própria avaliação. Nas próximas semanas, os programas receberão as fichas de sua avaliação, mas estas ainda não serão públicas, porque poderão pedir reconsideração. Uma vez julgada esta última, as fichas serão abertas a todos. Planilhas e outros documentos serão oferecidos. A consulta às páginas web dos programas e ao banco de teses permite também julgar quem julgou. E é claro que onde tiver havido erros eles serão cobrados. Justamente por isso, podemos orgulhar-nos de nossos acertos: porque exporemos o que possa estar errado. Não há melhor modo de aumentar a chance de acerto do que esse, mostrar que pode haver erros.

## **2. Os critérios da avaliação**

Cada uma das 45 áreas do conhecimento<sup>1</sup> em que atua a Capes tem seus critérios de avaliação, mas há uma filosofia comum a todas.

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<sup>1</sup> <http://www.capes.gov.br/avaliacao/representantes.html>

Como aqui há muita confusão e bastante equívoco, este é um assunto fundamental.

### ***Produção científica***

Podemos dizer que o primeiro critério na Capes é que, para alguém orientar ou mesmo lecionar na pós-graduação, é decisivo que seja pesquisador. Na graduação, entende-se e é necessário que um professor seja um bom didata, mesmo que não se dedique à pesquisa inovadora (mas precisa atualizar-se com os resultados da pesquisa de ponta). Na pós-graduação, o volume de aulas é melhor e por isso mesmo a questão da boa didática é menos importante do que a da qualidade da pesquisa que o docente faz e na qual leva seu aluno a mergulhar.

Em outras palavras, só ensina a pesquisar quem pesquisa. Isto requer um primeiro ponto, que é como se mede a pesquisa. Uma das maiores ilusões sobre a Capes é a do assim-chamado “produtivismo”, isto é, a idéia de que a agência só quer saber se e quanto você produz. Não é verdade. O mais importante é a *qualidade* do que se produz. Evidentemente, só podemos saber da produção científica quando ela é publicada. É quando ela se torna fecunda, quando se expõe a críticas, que podem ser devastadoras, mas quase sempre têm um efeito construtivo, e quando pode influenciar leitores e levá-los a citá-la em suas próprias pesquisas. Publicar é então o meio de difundir a produção, de socializá-la.

Como se mede a qualidade da pesquisa publicada? Em várias áreas, há o fator de impacto. Em princípio, este se mede tomando-se uma revista científica, verificando quantas citações revistas científicas qualificadas fizeram de um número dela e dividindo-se esse total de citações pela quantidade de artigos publicados naquele exemplar. Assim, se a revista A publicou 20 artigos, que foram citados 100 vezes, seu fator de impacto é cinco. Mas, se nas outras publicações saiu apenas um referência a algum daqueles artigos, e nada mais, o fator é 0,05 (ou seja, um dividido por 20).

Esta é uma medida bastante sofisticada. Ela significa que não se mede *apenas* a qualidade da revista, mas o seu “impacto”, ou seja, sua fecundidade. Um trabalho pode ser muito bom, eventualmente, mas não repercutir em nenhuma pesquisa nova. Não será citado, então, e terá sido de certa forma estéril. Mas essa não é uma deficiência do fator de impacto. É que este mede como uma publicação contribui

para constituir uma comunidade científica, não apenas a qualidade de artigos isolados. Se há citações, é sinal de que se está construindo um ambiente de diálogo, uma massa crítica, que permitirá que a área avance.

O fato de um artigo sair numa revista de impacto maior – ou menor – não quer dizer que ele, individualmente, vá ter aquele número de citações. O fator é uma média. Mas indica que há uma probabilidade maior de ele ser lido e, assim, influir na pesquisa e ser citado. Vê-se então a importância de uma política editorial seletiva e rigorosa. Quanto melhores os artigos que saem numa revista, maior a chance de ser lida, e por aí vai.

Como temos cinco tipos principais de produção – em periódicos, em anais de eventos, em livros, em patentes e em produção artística – cada um coloca seus desafios específicos. O que falei vale para os periódicos, basicamente. Cada área do conhecimento estabelece a sua hierarquia de revistas (e de outras produções) e publica um Qualis, isto é, sua classificação delas. Já temos Qualis de periódicos, de eventos e de produção artística. Este ano, pela primeira vez, as áreas que têm seu forte na produção de livros vão fazer a classificação de qualidade e/ou impacto desse outro tipo de publicação. Mas falaremos do Qualis em outra semana.

### ***Distribuição da produção científica***

Mas adiantaria muito se, num programa, um, dois ou três docentes respondessem pela produção científica, enquanto os outros dessem aulas e orientassem? O que se deseja é um equilíbrio na produção intelectual, respeitada evidentemente a diferença entre seniores e juniores, entre docentes mais maduros e mais novos, que leve um aluno a sentir segurança de que será orientado por um pesquisador de verdade, e não por alguém sem experiência de pesquisa.

Isso é o que se chama distribuição da produção científica. As áreas fixam faixas distintas, mas digamos que é razoável supor que dois terços do corpo docente de um curso, pelo menos, atendam a um ritmo de publicação de determinada qualidade, para a Capes poder dar uma nota que indica, com pequena margem de erro, que o aluno será orientado no patamar daquele curso (que pode ter nota regular, boa, muito boa ou excelente). Ou seja, um curso “muito bom” não é aquele que tem dois ou três professores excelentes e vinte apenas regulares. É um curso que tem sua linha de equilíbrio no muito bom, e, portanto

assegura a seus alunos uma chance elevada de ter professores e orientadores desse quilate.

### ***Formação de mestres e doutores***

Mas, se parássemos aí, estaríamos fazendo a avaliação dos grupos de pesquisa. O CNPq, nossa agência irmã, tem um importante diretório de grupos de pesquisa. Mas há algo que falta ao conceito de grupo de pesquisa: ele não forma pessoas. Como o Brasil faz sua avaliação dos cursos de mestrado e doutorado a partir da Capes, que tem no nome o aperfeiçoamento do pessoal de nível superior, nosso principal “produto” não são os artigos e livros, nem mesmo as teses e dissertações, mas os mestres e doutores que vão utilizar o conhecimento e a experiência adquirida para atuar quarenta, talvez cinquenta anos na pesquisa ou na sua profissão.

Por isso, é fundamental ver como se dá esta formação. Algumas áreas exigem que a tese ou dissertação resulte em publicações de um determinado nível de qualidade. A química, aliás, é radical: ela só computa a produção científica do professor quando ele tem, como co-autor, um aluno de pós-graduação. Uma obra prima solo não valeria. Vê-se como a área está longe do “produtivismo”! Contudo, nas áreas em que não há a tradição da co-autoria, como nas humanas, seria difícil importar esse critério. Outras áreas lêem algumas teses e dissertações, geralmente enviadas pelo programa (o que traz o risco de distorcer o resultado, porque somente são remetidas as melhores). Com a divulgação de teses pela internet, é possível apreciar a qualidade de maior número delas e também se torna viável esse julgamento por parte da comunidade.

### ***Equilíbrio na formação de mestres e doutores***

Da mesma forma que não é bom ter a produção intelectual de qualidade concentrada em poucos membros do programa, também é negativo ter a orientação conduzida apenas por pequena parte deles. Adaptemos o exemplo acima: imaginemos então que dois ou três professores concentrem a maior parte das orientações de um curso, enquanto vinte têm um desempenho pequeno. Ora, o que queremos é que o professor que pesquisa seja o mesmo que orienta. Se houver uma “especialização” de uns na orientação, outros na docência e outros, ainda, na pesquisa, o resultado será que os orientados não terão tido experiência real de pesquisa. É o contrário do que queremos.

Repetimos: cada área tem ampla autonomia na definição de seus critérios, o que ela faz com o representante de área se reunindo com sua comissão e discutindo, geralmente, com os coordenadores dos cursos de mestrado e doutorado e ainda com as sociedades científicas. Mas os principais critérios têm sua filosofia acima exposta. Faltou um, ao qual chegaremos mais tarde: o do impacto social. Este é uma novidade.

### 3. Inserção social

Uma das novidades na ficha de avaliação dos cursos de pós-graduação *stricto sensu* é a inclusão de um novo quesito, *inserção social*. Ele tem um peso fixo de 10% na avaliação dos mestrados acadêmicos e dos doutorados (que são, todos, considerados acadêmicos). No caso do mestrado profissional, a área de avaliação pode fixar esse peso entre 10% e 20%, considerando-se que esse nível de titulação pode – e deve – se caracterizar por um impacto social maior.

Essa inovação é muito importante, porque significa o reconhecimento oficial, pela Capes, de que a pós-graduação tem uma responsabilidade social e deve assim, não apenas melhorar a ciência, mas também melhorar o país e, por que não? Sobretudo se pensarmos em termos de ecologia e meio ambiente, o mundo. Dizendo de outro modo, o pressuposto da avaliação é que os docentes sejam pesquisadores de qualidade. A exigência de boa pesquisa, que causa reclamações injustas (porque um mau pesquisador não vai formar um bom mestre), é a pré-condição para a pós-graduação funcionar. O eixo da pós, por sua vez, é a formação de bons mestres e doutores. Sabe-se que, se fôssemos avaliar só a excelência do grupo, examinaríamos o excelente Diretório de Grupos de Pesquisa do CNPq. Mas queremos algo além disso, que é como esses pesquisadores formam mestres e doutores. E, com a introdução do quesito *inserção social*, damos um passo adiante: queremos também ver como esses mestres e doutores, bem como a pesquisa deles e de seus orientadores, atua em termos de desafios decisivos para a sociedade.

#### *Autonomia*

Cada uma das áreas do conhecimento define como entende a inserção social. A título de exemplo, damos aqui quatro exemplos de impacto e as indicações, que a Capes formulou a respeito de cada um deles:

1. **Impacto tecnológico/econômico** – contribuição para o desenvolvimento microrregional, regional e/ou nacional destacando os avanços produtivos gerados; aumento da produtividade; disseminação de técnicas e conhecimentos que melhorem o desempenho econômico, respeitando e considerando seus efeitos sociais e ambientais;
2. **Impacto educacional**: contribuição para a melhoria do ensino básico, médio, graduação, técnico/profissional e para o desenvolvimento de propostas inovadoras de ensino. Um exemplo de contribuição nesse campo, passível de ocorrer em algumas áreas, seria a geração pelo programa de “livros-textos” para a graduação e de livros didáticos para o ensino fundamental e médio. Contudo, recomendamos também que esses trabalhos sejam pontuados positivamente, apenas quando forem excelentes ou muito bons. O objetivo desta idéia é estimular a produção de tais trabalhos só quando forem excelentes, uma vez que, se forem de qualidade média, não trarão nada de novo e, sempre, representam um esforço que afasta o professor de outras atividades prioritárias para o desempenho do programa, como a produção científica e orientação de alunos;
3. **Impacto propriamente social** – formação de recursos humanos qualificados para a administração pública ou a sociedade civil que possam contribuir para o aprimoramento da gestão pública e a redução da dívida social, ou para a formação de um público que faça uso dos recursos da ciência e do conhecimento;
4. **Impacto cultural** – formação de recursos humanos qualificados para o desenvolvimento cultural e artístico, formulando políticas culturais e ampliando o acesso à cultura e às artes e ao conhecimento nesse campo.

### **Extensão**

Numa universidade de ponta, é freqüente a extensão ser “a prima pobre” dentre as principais atividades da instituição. Compreende-se. O segredo de uma boa instituição de ensino superior está na pós-graduação. É ela que, articulando a pesquisa com a formação de alunos já graduados, assegura a qualidade do ensino superior – e que faz que ele não seja, apenas, ensino. Não há dúvida de que a extensão é importante, mas muitas vezes ela é pulverizada. Não é isso o que interessa no novo quesito, embora tenhamos o maior respeito pelas atividades de extensão. O que se está valorizando é uma extensão de

impacto, planejada, eficaz na consecução de objetivos que transformem a sociedade. Vamos a alguns exemplos.

O atendimento de doentes, por exemplo, pode ser uma extensão preciosa em termos sociais. Mas, para a pós-graduação, o que importa é – por exemplo – se um programa de saúde coletiva revolucionou a rede de atendimento, e não quantos doentes foram atendidos. O que estamos considerando é o poder de transformação social que a pós tem. Isso significa que ações de rotina, ou ações socialmente meritórias, mas que não modifiquem, não serão consideradas para a avaliação da pós-graduação.

Que não modifiquem, afirmei acima; mas modifiquem o quê? Há vários objetos diretos para este verbo. Podem modificar o atendimento de saúde, como fará um bom mestrado (talvez mais profissional do que acadêmico). Podem modificar o ensino de ciências, como tem feito a área deste nome, sobretudo com seus mestrados profissionais. Mas devem também modificar o conhecimento. Não se trata de mera aplicação de um conhecimento pronto a realidades que clamam por ele. Para a pós, é importante que esses trabalhos retro alimentem a pesquisa e a formação. Um curso de pós-graduação, assim, não pode entrar no piloto automático e de maneira repetitiva, como numa linha de montagem, difundir boas práticas pelo País. Essa atividade é legítima e deve ser executada, mas não é a missão do mestrado e do doutorado. *Um curso que não se modifica, que não se autocrítica, não será um bom curso de mestrado ou doutorado.*

Por isso, também no caso de ações macro, planejadas, bem sucedidas, se elas entrarem num ritmo de cruzeiro em que não há mais o que alterar, mas simplesmente aplicar um modelo que deu certo – então, o mais adequado é não mais estarem no cerne da avaliação da pós-graduação, e sim fazerem parte de políticas públicas. Nessa hora, a universidade poderá e deverá cooperar com a sociedade, sejam os poderes eleitos, sejam ONGs e instituições comunitárias ou privadas, para dar caráter duradouro ao impacto que a pesquisa e a formação geraram. Ou, como se diz, dar escala. A pós terá conseguido um fruto importante, mas seu papel como pós será continuar se questionando e mudando.