## Interdisciplinarity and Graduate Studies in Brazil: Concepts and Structures of Interdisciplinarity

Vahan Agopyan Vice-Reitor/Vice-President Universidade de São Paulo (Brazil)

Interdisciplinary and multidisciplinary initiatives are quite desirable conditions that involve a big task: guide the specific/basic knowledge and practice complementary interactions to create the interdisciplinarity.

The need of interdisciplinary approach for the development of the academic activities is well understood and accepted by the Brazilian universities policy makers and rulers. Even for the government point of you, this challenge is strongly supported. For instance, since 1999, in the Ministry of Education, the agency that supports and evaluates the graduate programs into the country (CAPES), has established an area dealing with the interdisciplinary and multidisciplinary programs. Although all of the graduate programs are expected to have an interdisciplinary approach, some of them are in such way that it is not possible to point out a predominant subject to be classified in a specific area in this agency.

Thanks to this CAPES policy the number of interdisciplinary and multidisciplinary programs has increased sharply. In the year 2000 there were 54 programs classified in this area which consisted of 3.9% of the total graduate programs in Brazil (41 programs for Master degrees, 4 for Doctoral degrees and 9 for both Master and Doctoral degrees). The last consisted available data are from 2012, when there were 440 programs (172 Masters, 15 Doctorals, 124 Professional Masters and 129 Masters+Doctorals) which represent 13.2% of the total programs in the country.

The same interest and efforts have been pursued by other official agents, such as the Ministry of Science and Technology, directly and throughout its institutions, and also for state governments and state research supporting agencies like FAPESP, the research supporting agency of the State of S. Paulo, the most relevant and the most important one in the country. Moreover, the Brazilian council of provosts for research and graduate studies of all the universities has defined interdisciplinarity as institutional commitment for research and education.

All these efforts of the Brazilian research policy makers have stimulated some solid well stablished research groups to interact among them to create respected and productive packages of human resources capacitation. However, these actions are not fully translated into practice, as expected, due to universities conventional organization, and also due to the behavior of the internal commissions for selection or evaluation of the universities and research supporting agencies where their members do not always follow the policy established by the central administration. These members are faculties who are usually trained and acted in specific subjects, therefore they have difficulties to analyze and evaluate proposals with blended subjects.

The main research work in Brazil is carried out by public universities (federal or state ones) so their performance is of utmost importance for the adoption of interdisciplinary

activities. Unfortunately the public universities in Brazil have a lot of constrains that are the main drawbacks in the country for the increase expansion of interdisciplinary activities. The country regulation for academic activities and university administration is extremely detailed and complicated so it is far easy to select the faculty members and students through disciplinary exams than more comprehensive ones. This type of selection does not help for the interdisciplinary approach among new university members. Furthermore, it is necessary to point out the strict academic structures in the public universities that are based in disciplinary department organizations and activities. The chair of an interdisciplinary research group or graduate program has to please different heads of departments in order to keep on his activities, which demands time and efforts. In the same way, the management model of the public universities is also not helpful for interdiciplinarity. The universities are usually administrated in a very centralized way and the decisions are taken during boards meetings. It is not easy to satisfy a large number of participants in a commission even if the head of this group is happy with the subject. Finally, there are external actions that can be considered as drawbacks in Brazil: it is difficult to publish an interdisciplinary paper in a large number of important journals or to convince the research supporting agencies to have the interdisciplinary project properly evaluated. Once again in these external institutions the activities are organized in commissions where the majority of members have a strong disciplinary attitude.

Taking into account the difficult scenario described in the previous paragraph, the tasks of the academic managers to increase the interdisciplinary activities are not easy. Nonetheless the output of the interdisciplinary research groups and graduate programs are very encouraging. If these good results are adequately disseminated among the members, certainly our colleagues will be persuaded to accept this approach in order to improve their doings. It is our task to take persistent actions to convince our colleagues the need of interdisciplinarity in the academic activities.

At the University of S. Paulo (USP) this topic is intensively discussed in internal events, usually organized by the central administration. By our experience, during the events it is possible to involve the academics with this topic proving the advantages and demystifying the supposed difficulties, such as the risk of losing the basic knowledge through this more comprehensive action. On the other hand, efforts are made to change the internal rules, allowing the programs to be more flexible and the faculties to work in different research groups or departments. We are also trying to run in a new structure: two of the USP units does not have departments, and the faculties are organized by non-permanent subjects.

Finally, only the interdisciplinary research groups and graduate programs can get direct funding of the University. The same approach is made by the main research funding agencies like FAPESP and CNPq (Ministry of Science and Technology) that prioritized mainly interdisciplinary groups for long term support with large amount of resources.