

RESEARCH ARTICLE

Vision Integration of National University IES Praxis: An Exploratory Study in the Graduate Subsystem

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Abstract

With the assumption that a vision of integration is closely related to an improvement of the dynamics and communication between the plurality of fields of knowledge, the purpose of the study was to contribute to the construction of knowledge and be an agent of motivation for further studies about referenced a very little issue: the integration as part of the university praxis in Higher Education Institutions - HEI. In this perspective, inserted in the "Graduate" subsystem, the study turned to integrative postures that could be observed in them. This work was conducted based on information available in the Pro- Rectors of Institutions of Higher Education, as well also as the Coordination of Improvement of Higher Education Personnel - CAPES. The variables studied were the distribution of courses of excellence (which refers both to internal political skills as resource allocation), the amount of multidisciplinary postgraduate programs and the amount of the graduate institutional extramural programs (promoted concomitantly by more than one institution). The results indicate that praxis is not homogeneous, and heterogeneous data indicate that the tertiary institutions, much still has to move in order to overcome departmental boundaries and be a higher payment and communication between branches of knowledge, but institutions have some strong points, and for the University of São Paulo - USP stands out a distribution of well-balanced excellence and striving for the HEI as a whole, the Federal University of Bahia-UFBa stands an immense number of programs and inter institutional programs at the University of Brasilia-UNB there a highlight regarding the existence of multidisciplinary programs.

Keywords: *Graduate, Praxis, and Analytical Systemic Approach.*

Introduction

Several approaches can be designed to underpin and support the issue of integration, as an alternative, in this work, it was - absorbing source of systemic view, that option is not intended to say that the best way to address the issue, but that despite not be the only one, that can be a good starting point for observing aspects of integration in terms of Brazilian academic practices.

The Systems Approach originated in the early twentieth century, more precisely in the 30s, with the number of scientists who appointed - Cybernetics. They developed the so-called general systems theory and the concept of cybernetics; appear in opposition to the positivist tendency of time to "cut" into smaller chunks knowledge and science.

These researchers have made an effort to draw attention to the need to take a more global view of the phenomena. The General Systems Theory was

formulated by a multidisciplinary team of scientists with common interests. Commonly, if reference to Ludwig von Bertalanffy as one of the main motivators of theory based on the concept of Aristotle that the whole is greater than the sum of its parts.

In this respect L. Von Bertalanffy quoted by [1] points out that "An increasingly detailed specialization characterizes modern science (...) Consequently, the physicist, biologist, psychologist and researcher members in the sciences are so to say shut up in his own universe; is difficult to change a word of a cocoon to the other" focusing, thus it is necessary, in the gym, a systemic view to look at the whole without dividing and detail, too, to the detriment of the holistic view.

The Systems Approach is implemented as a skeleton with the General Systems Theory and metamorphosis caused by the impact of the

concepts of cybernetics and other influences such as systems engineering, computer science, ecology, social science, etc. The systemic approach has

discrepancies in the analytical method. Table 01 presents a synthetic and comparative form the major oppositions between the approaches:

Table 1: Summary of systemic and analytical

Analytical Approach	Systemic Approach
Support focused on the observation of specific	Support facing the global perception
Focuses relatively stable environment	Stable and open environment.
Greater degree of predictability	High degree of adaptability
Relatively closed system	Open and interactive system
Emphasis on parts	Emphasis on whole
Chain (linear) about facts and phenomena	Web (network) about facts and phenomena
Focus on maintenance and sustainability	Focus on change and learning

According to [1] General Systems Theory would be a body of laws that may apply to all systems, while the Systems Approach would on the one hand, an art of theorizing in that it designs and manufactures for Furthermore, a methodology because it is concerned with finding solutions to specific problems.

More recently the Systems Approach was defined by [2] as: " the ability to perceive things moving in its own dynamics and their interdependence (...) contemporaneity, the horizontality of knowledge, while reference to the transdisciplinary and therefore the domain complexity and complementarity of knowledge (...) and puts into dialogue our partial knowledge, without that they take account of our ignorance."

The system concept is generally defined by the General Systems Theory as a set of interacting elements. [3] distinguishes systems that can present themselves in two ways or modes; the first is the closed system, that is characterized by isolation from the environment and other open system that has as main feature the interaction between the parties and with the environment.

The administration of any organizational system to maintain its viability and development must be concerned with the management of complexity, which for systemic authors as [4], can be measured directly by the variety. And expanding the concept of concurrently synthesizing the literature on systems of systems approach, [4] puts it:

"System (always part of larger systems) is a collection of parts (each part is also a system) interrelated (interactions, flows of material, energy or information) constituting a whole (gestalt) organized (planning, control) to achieve (dynamism) certain goal (achieve a certain result, perform a certain procedure to submit certain behavior)."

Management focuses on the organization as a unified system, consisting of interrelated parts and facing a particular purpose/objective; is a systemic vision that allows to consider the organization as a whole with parts not closed together and as a whole that is part of the broader external environment [5]. The great advantage of the systems approach is that it goes beyond the limits of functional departments and underscores the importance of work as a whole [6].

The systemic view, therefore, has greater extent to the understanding of complex organizations, which were virtually impossible if you took into account the previous paradigm. An attitude or policy guided by a systemic and global vision also seeks to understand the influence and stimulate communication and exchange of information between the parties themselves, and not only the construction of knowledge of each in isolation.

University Context

In summary the systemic view draws attention to the dynamic and integrative nature. We start this way, in this study of a systemic point of view, seeking elements of the University to serve Praxis parameters revealed a academic and institutional position focused on the production of knowledge in a more comprehensive manner, and not targeted towards greater integration and the ability of understanding a whole.

The university as an institution has its origins in early modernity. At that time, science, understood as knowledge born of systematic and careful examination of the relevant human subjects, came to be seen as the engine of development of society. Since then, we established a strong correlation between science and economic and social development, giving rise to university for the purpose of producing science organizations and reverses it into practical for humanity results [7].

Based on its genesis, one can understand the purpose of the university as producing knowledge and train people for productive work, turning knowledge into economic and social development activities. Considering this purpose, [8] considers the existence of three identities that coexist in the university organization: ↪ the university as an agent service provider community, ↪ the university as a place of research, teaching, research and the pursuit of new knowledge and ↪ the university as a privileged place of preparation for the exercise of professions increasingly regulated and credentialed.

From a legal and normative view, in Brazil, according to LDB/96, Law of Guidelines and Bases, we define universities as "Institutions of multidisciplinary training of higher level frameworks, research, extension and field and cultivation of human knowledge" [9]. As scores [7], over time, economic and social changes have allowed various configurations on the relationship between science and society, bringing consequences to the administrative structure, curriculum organization, and academic procedures for the proper function of the university.

If complexity is directly measured by variety as postulated systemic authors such, arguably the variety presented in a university context is so great that it does belong to the category of extremely complex system; constituting a function of the huge variety of systems and subsystems, a set extremely "complex" that hinders your description accurately and detailed.

Given the extreme complexity of university organizations, to enable this introductory study, the object of study was restricted to Postgraduate subsystem, focusing partly political and/or organizational postures geared towards greater integration and related programs Postgraduate *stricto sensu*.

The Graduate University as Part of the Praxis

You can link the emergence of studies in the Postgraduate level in the contemporary world with the accumulation of knowledge in various branches of science and the increasing specialization of techniques. The development of knowledge and technical advise to enter higher education in a hierarchy of levels of study: undergraduate, whose goal would be humanist, scientific statement "critical mass" and vocational training, and graduate whose goal is to create a superstructure allocated to research and development of science, technology and culture [9].

Based on this idea is suggested that the immediate consequence of graduate programs would be the deepening of knowledge, allowing students to attain high standards of scientific or technical and professional competence. Moreover, the benefits of postgraduate transcend the individual benefit to the student, and should reach the community in which concepts are inserted, depending on the generation of new knowledge and contribution to the advancement of science and technology, which are closely related to economic and social development.

The opinion [10], the Federal Board of Education, whose rapporteur: Mr Newton Sucupira, deposed courses Postgraduate in two groups: *Lato Sensu* and *Stricto Sensu*. Courses Postgraduate belonging to the first group comprises those who follow graduate studies and training are geared to rapid and focused on specific skills. Have courses *stricto sensu* are those organized and oriented to the development and training of highly skilled researchers, postgraduate courses in Brazil translate into master's and doctorate, whose broader goals provide thorough scientific training. Within this perspective, the opinion proposes the organization of *stricto sensu* graduate programs at two levels of studies that are ranked: master's and doctoral degrees. The establishment of these two levels has inspired the titles of master and doctor of American systematic representing only a simple scaling, not a requirement.

This scaling appears to be related to the escalation of the university 's own career: the teacher primarily responsible for teaching and ministering to which it is considered qualified who possesses at least a master's degree, and teacher- researcher, besides ministering classes, is also back to the research activities, considering qualified one who has a PhD.

Reinforces this idea the position of authors like [11], which means there is a consensus in Brazil that doctoral programs are linked to the research, turning "to the extension of knowledge and the creation of new knowledge". In the case of Masters, is expected to prepare teachers for the teaching and supporting the development of scientific work. Also [12] considers that the master "aims to educate and improve teaching in higher education", while the doctorate "is facing the formation of independent researchers."

For [13], Masters courses are seen as spaces in which the training of specialists and researchers mingle, and doctoral like that geared specifically to the education of researchers responsible for the

production of scientific knowledge. Also according to this author, since the production of knowledge is supported by post-graduate studies, academic career, considering that the existing scheduling has its maximum point of the doctorate requirement.

All current and authors converge to the same construct and/or wrapped to the issue of post-graduate studies concept: highly trained human resources and in-depth domain knowledge in a field. Now if the intent is to check the systems view, it would not be in contradiction with the principle of specialization? After all, if the postgraduate specialist because systemic principles could be important if the same for the global direct and not to specific, there could be a point of optimal balance between vision and depth insight?

Despite the apparent contradiction and conflict dichotomy inserted into the Binomial Specific versus Broad, can stimulate the communication between areas of knowledge and not lose the identity of multiple fields and not the basic premise and functionality of the Post-graduate programs. The intention of a brief check of a praxis / integrative vision of PG (postgraduate) programs might take into account the analysis of several quantitative and qualitative variables.

Courses offered and general information about them, forms of selection and admission, listing of students who, correlation between systemic and CAPES evaluation profile, list of HEIs (Higher Education Institutions) with funding agencies, exogeny and/or endogenous faculty (profile of teachers in relation to the formation of intra origin or not intra - organizational), students and faculty involved in research, research groups, scientific, technical, artistic and cultural, teachers and students involved in outreach activities, number of projects extension as set forth policies and the relationship between the rectory with PG programs, integration relationship between postgraduate programs and undergraduate curriculum of post-graduate ratio of PG programs and the community, etc.

As seen numerous aspects can be lifted in search of a profile or portrait around a systemic practice of HEIs and Postgraduate subsystem. [14] conducted a brief check of the characteristics of research projects regarding the practice of interdisciplinary work and conducting work on networks in Brazilian graduate programs of excellence (notes 6 and 7) the areas of

Biochemistry, Electrical Engineering, Physics and Chemistry.

Data collected by [14], point numbers that revolve around $\frac{1}{4}$ of researchers regardless of area to carry papers in national and international network; the nature of the research projects, the authors conclude that records of interdisciplinary work are exceptions in all (4) surveyed areas: "the practice of interdisciplinary work is much less expressive in all programs analyzed, it was not possible to observe factors that are positively interfering in inducing its intensification".

Some of these aspects related to the character of integration are already taken into account by the systematic evaluation of PG courses conducted by CAPES, we can mention some of the evaluation criteria.

In the Administration area: there are variables evaluated, "Exchange or renewal of teaching and other faculty participation body (weight 10)" and "exogeny faculty (weight 10)", implying that the Administration area 20% of the composition the item "faculty" is formed directly by measuring related to a profile or systemic circulation variables. These weights vary from area to area, and show that even non-dominant form, these criteria are already observed in general terms.

A few more questions in determining the profile of Excellence program PG can be cited, for example, the area of psychology, which explicitly cites criteria such as: "substantial Dedication to graduate without loss of bond with graduation", "evidence of performance of the program in the local or national community outreach activities (...)", "academic environment of active exchange (participation of visiting professors and doctors recently (...)", "evidence of performance of groups of teachers in joint work, moving away from an exclusively individual pattern of production of researchers". The point here is not to engage in politics about the evaluation criteria and do not exhaust the discussion assessment acts as a stimulus or coercion for programs Postgraduate [15], but only to show that in addition to efficiency criteria, such as quantitative relationship between students and average completion time and the number of quantitative publications also focused criteria for verifying integrative aspects are part of the range and composition of the final grade of the post-graduation.

This line and the assumption that greater integration is closely related to an improvement of

the dynamics and communication between the plurality of fields of knowledge, the purpose of the paper is to contribute to the construction of knowledge and be an agent for increasing motivation the likelihood of new studies about a little issue referenced in the literature: the view of integration in university practice in higher education institutions. In this theoretical perspective, the problem under study is inserted in the "Graduate" subsystem and is facing some issues and systemic postures that can be observed in them, focusing systems Postgraduate three large Brazilian institutions: University of Brasilia - UNB, University of São Paulo - USP and Federal University of Bahia - UFBA.

Methodology

In an attempt to have some indicator of systemic profile of the institutions the strategy used was launching into Hand Lifting relevant information relating to two variables: the masters / doctoral and masters multidisciplinary / multi and / or doctorates and also the distribution of programs excellence of these institutions. The data collection was to supply both the documents and archives of Pro- Rectors of Institutions and also the Coordination of Improvement of Higher Education Personnel - CAPES.

The intention was to select large Brazilian institutions, but belonged to different geographic regions and realities normally quite far in their traits and characteristics. The study focuses on 03 institutions: the USP as a major institution of the southeast of the country and also the UNB representing an institution with a history of recent foundation before the big institutions and one of the main institutions of the South-Central region, and that is one of UFBA oldest founded in Brazil and one of the main North-Northeast region.

"The USP is responsible for the formation of a very significant portion of masters and doctors in Brazil. Despite the increasing expansion of the system as a whole in 1996 still formed 20 % of teachers and 40 % of doctors graduated in the country. The vast majority - over 95 % - works to other institutions of higher education, or public institutions and private sector. Representing the largest system of graduate education in Brazil." [16]

The University of São Paulo is the largest institution of higher education and research in the country, the third in Latin America. USP has outstanding projection in higher education across the continent, many of the masters and doctors of the national faculty shape and bears a rich ballast

achievements, evolving in the areas of education, science, technology and arts.

The project of the University of Brasilia - UNB arose in opposition to the traditional university model created in its thirty- year history has been marked by the crisis because of the introduction of military political regime in the country. Among illustrious names, teachers and Darcy Ribeiro Teixeira kept constant communication with scientists and thinkers accomplices in the great adventure of reflection on the Brazilian university model, which in Brazil tend to break some existing standards in higher education.

Boldness was identified with its principles, with the legal system of the University, with the academic and administrative structure, with the construction of the upcoming "Giant Worm", with out breaking the regime serial disciplines with program content in the form of implementation and management not closely tied to the didactic control and systematic introduction of research in the university context.

Even a "young" compared to the chronology of major Brazilian institutions, UNB established itself as one of the promising names on the national scene. In 2001, 15 programs Postgraduate were considered to be excellent by CAPES evaluation (greater than or equal to 5 note), these 10 programs have one thing in common in relation to physical structure and spatial arrangement, are all in the same building / local, this is a huge set called ICC - Central Institute of Sciences - better known as "Giant Worm" - the ICC in its great length (approx. 800m), gathers and integrates a single space large portion of academic activities University of Brasilia.

This feature "space" the Federal University of Bahia lacks the campus of the institution is fragmented and spread across several districts of the city of Salvador, a characteristic that one hand can hamper exchanges and communication between institutes and departments of the institution, from another angle can be seen as facilitating aspect of contact with the community, that they are close you can see it affectionately as the " neighborhood school ". The UFBA or " federal " from Bahia are intimate terms that reflect a bit, the commonplace, which references the UFBA the image / brand to be among one of the IES has the strongest issue of integration with the community and the university extension.

The UFBA started with some existing schools and winning in the 40s, officially, the title of a

university shall consolidate same acronym, traditional colleges as the First Faculty of Medicine of Brazil created in 1832.

Currently the Federal University of Bahia is one of the leading universities of the North and Northeast, along with the Federal University of Pernambuco - UFPE, the Federal University of Paraíba - UFPB and also the Federal University of Ceará - UFC. However, the state of Bahia alone represents about 50 % of GDP in the Northeast, which increases the responsibility of UFBA towards the region. The system of Graduate UFBA is undergoing a significant expansion between 2000 and 2001, there was a significant increase in the number of programs of excellence that jumped from five in 2000 to nine in 2001.

Results and Discussion

The USP was as expected occupies a prominent position is the qualitative and the quantitative edge of research in the country, over half of USP courses were rated as excellent, which is a very good performance from the institutional point of view, further if we take into account that some of them still received maximum score - Note 7 - which puts the institution in some areas a very comfortable position and comparable to the best schools in international quality.

To verify the origin of intra-institutional courses at USP excellence, we note that contrary to what in principle imaginable, they are relatively evenly distributed across the campus principal and campuses in the state, positive and demonstrates a decentralized resource allocation and an internal policy not to privilege the capital to the detriment of other branches of the institution; it seems in terms of performance programs, USP maintains on average a good quality standard regardless of the location of the campus, which correlates positively with a more systemic profile that takes into account the institution as a whole.

As for UNB, while crossing the data collected on the courses of excellence with the location of the same university, campus coincidence or not, it appears that the vast majority focuses on building the ICC - Central Institute of Sciences, also known as "Giant Worm", which reinforces the idea that no segmentation of isolated courses in colleges and physically put them "together" discriminates academic isolation, improves communication and exchange between areas and ballast of a practice of everyday integration; the location alone would not be capable of such a feat, but combined with internal policies, organizational and individual

postures, can be another element that the "closeness" will contribute and add to the integrative practice and to boost the development of quality programs university.

The UNB stands in a position of leadership in the Midwest region driving the research of this part of Brazil and the. UFBA acts with a major role in the Northeast, especially in the state of Bahia, it is noteworthy that almost all of its programs of excellence are concentrated in the humanities / social and applied in the field of health sciences.

The development of research projects is interesting to note the existence of networks of collaboration with other institutions, the degree of participation of other agents, the prospects for continuation of the project, intermediate products and the direction we set process. For collecting and gathering information about the programs that were conducted in partnership between different institutions, these partnerships, sort of joint university venture, are known as MINTER - Masters Inter.

It is necessary here a parenthesis: the MINTER born almost by force and imposition of [10], which in its Article 52 imposes a minimum qualification for teachers who act in Educational Institutions Superior, the immediate impact of the implementation of the law was that small institutions there was no way to fulfill it, since most of its teachers was formed by graduates, graduates and specialists, very few teachers and very few doctors.

One proposed solution to this impasse was then that large institutions collaborate in order to create the necessary conditions so that teachers could make the small level studies strictly postgraduate, since the institution of origin not provided.

That relationship arose the first courses resulting from the union of universities, the goal was to pass without master teacher to master teacher with the return thereof to work in the home institutions to improve teaching quality and conform to the requirement of the Law Guidelines and Framework. The relationship between universities usually occurs with a IES promoter (or headquarters) and one or more recipients IES. In the context of this relationship MINTER cooperation between large and small is commonly called asymmetric, but also appeared symmetrical partnerships, referring to cooperation between large institutions.

The UFBA own courses conducted in partnership with other universities, the list also includes inter-institutional programs at the doctoral level programs (some of them by analyzing the concentration areas, still seem to be too interdisciplinary, but not so classified by CAPES).

By partnering with institutions to UFBA shows an organizational posture toward interagency communication and to regional development. Is really quite significant predisposition of UFBA in forming partnerships with other institutions, a constructive approach it demonstrates that dialectically is able to cope and overcome possible barriers to this type of relationship requires, be they bureaucratic, personnel of complicating management and further aspects of the direct clash of organizational cultures.

The role of UFBA varies for each partnership; it is worth noting, for example, the fundamental role that UFBA is for the state of Bahia. The firm UFBA numerous agreements with UESC - State University of Santa Cruz and also fewer with UEFS - State University of Feira de Santana and UESB - State University of Southwest Bahia state universities are all these small towns in the interior of state located in Ilheus- axis Itabuna, Feira de Santana and Vitória da Conquista, respectively.

By fulfilling these partnerships UFBA assumes an insertion position in the local community serving as leader and “export hub” of skilled labor for IES in the state and therefore operates in a crucial way in promoting regional development.

Apparently the UFBA not limited asymmetrical relations, beyond the borders of the state and performs several agreements with other institutions, the Northeast (UFPB UFPe), the Midwest (UNB) and Southeast (UFRJ).

This large number of inter-institutional graduate programs, regardless of their position or receiving it as a promoter, symmetry or asymmetry, probably the relationship of partnership is embodied with mutual learning how to UFBA for both; as the systemic perspective, it establishes a position of organizational reciprocity, as a result is the very worldview that is permanently altered and requires a readiness to new understandings of the academic environment.

Final Considerations

From an integrative view and by way of summary, the brief dip in graduate systems of three Brazilian institutions demonstrates differentiated

profile, indicators have been raised far from conclusive and decisive, show that stands on the issue of conducting UFBA a large number of inter-institutional graduate programs at UNB as many multidisciplinary programs at USP and decentralized distribution of courses of excellence, giving a better balance to the whole organizational somehow.

The process of accreditation and evaluation of multidisciplinary areas seems not always to the satisfaction has been achieved. Is on the air featuring a multidisciplinary program, there are courses such as public health, which is now rated as essentially multidisciplinary, now as in the Biology or Health Sciences would need to have clearer criteria to define the requirements for a program PG is considered " multidisciplinary ", these areas still require special care in the composition of the audit committee should include researchers with sensitivity to the problems of interdisciplinary training and practice guided by a systemic view. And deserve thoughtful policies to stimulate an increase in their number.

As scores [7] and [8], the university has helped support the tripod Teaching -Research - Extension, but the system of CAPES evaluation that defines the profile of excellence in Graduate is strongly directed to research. There seems to be an implicit assumption that research and publications derived from it are necessarily evidence for the development of quality education; but we must emphasize that quality training in teaching requires educational and scientific expertise not readily comes directly from research activity; this relationship becomes even more complicated if we take into account the character of the extension.

Even for methods, ways, and different data paths arrives here virtually the same conclusion arising from the work of [14], the right to practice interdisciplinary nature is very little expressive in graduate programs, but is need to encourage them both at macro and micro level of the instances of postgraduate system.

Role of CAPES in planning and implementing the policies of the higher education system in Brazil has been, and remains, crucial. CAPES, with its coordinated through funding policies and evaluation of post -graduate activities, stimulated the establishment and institutionalization of training of highly qualified personnel as essential product of academic research throughout Brazil and can also with their management policies in S & T (Science and Technology) stimulate and encourage the development of attitudes geared

towards greater integration in the Brazilian graduate system.

The nature of the “integrative” in practice it is noted that much still has to contribute with several other methodologies or variables and map, subsystem graduate, another important aspect is the most in depth studies to clarify which variables may be interfering positively in order to induce its intensification. Finally a conclusion is there, even in an introductory / exploratory study revolves around the question of the integrative

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practice is still “embryonic” aspect; educational institutions of higher education, much still has to move in order to overcome departmental boundaries and towards the payment and / or communication between the various branches of knowledge, science and technology.

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