

RESEARCH TRAINING AS AN ELEMENT IN CONSOLIDATING UNIVERSITY RESEARCH

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REVISTA DE LA EDUCACIÓN SUPERIOR
ISSN: 0185-2760.
Vol. XL (2), No. 158,
Abril - Junio de 2011, pp. 59-76

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Resumen

Con base en resultados de una investigación se analiza la forma en que ciertas condiciones de las instituciones que ofrecen doctorados en educación inciden en los procesos de formación de investigadores y, por ende, en las posibilidades de consolidación de la investigación en la universidad. Se trata de condiciones referidas a la forma en que ocurren los procesos y prácticas de formación al interior de los doctorados, la cual no es suficientemente explorada cuando la evaluación de los programas de posgrado se realiza sólo desde un análisis de indicadores como los privilegiados por las políticas vigentes.

Palabras clave:

- Investigación
- Formación de investigadores
- Condiciones institucionales

Abstract

Based on the results of a survey this paper analyzes the influence of a range of contexts in which institutions offer doctoral programs in the area of education, on the training of researchers and therefore in the potential consolidation of research in the university. The modalities and practices in which such processes take place have not been sufficiently explored, and remain largely neglected by current methods to evaluate existing research programs, which tend to rely excessively on categories of analysis privileged by the institutionalization of educational policies.

Key words:

- Research
- Research training
- Institutional contexts

Introduction

If university authorities were asked whether in their institution research and research training are considered as relevant, one would almost certainly obtain a positive response, they might also add that their university has a certain number of scholars registered in the SNI, (Sistema Nacional de Investigadores, National System of Researchers) some ongoing research projects, a certain number of publications resulting from research, the number of scholars enrolled in graduate programs, the doctoral research programs offered by their institution, and so on. Probably what would not be said, even if they knew, is that the budget their institution is able to devote to fund research projects is modest, that it does not have any chairs for new researchers or that they have no idea what really happens in the processes and practices that arise in the PhD programs with the intent of training researchers.

That is how big or small inconsistencies or omissions emerge in the discourse not only at the university level but also in the proposed concrete strategies aimed at strengthening research in higher education institutions. With full awareness that the goal of strengthening research in a university is a matter in which both elements are woven from macro-level (national policies, financial conditions, national and regional priorities, etc.) to micro-level elements (institutional policies, academic qualifications, support infrastructure, training programs, etc.) this paper focuses on *researcher training processes*, as they constitute only one of the elements that may contribute in a greater or lesser degree to the consolidation of research in higher education institutions.

Certainly, research training processes take place both within and outside programs that award degrees, yet here we specifically focus on those generated in PhD programs, assuming that these are spaces where multiple *institutional conditions* converge, of which its impact must be analyzed. These *conditions* refer to current circumstances and ways of doing or acting, both by oneself and by others, that may or may not be favorable, in terms of promoting meaningful learning for research. We are talking about conditions that are at times modifiable on the part of the subject or the institution in which he or she is enrolled, but some other times they are not and become a kind of forced context in which, in each case, the experience of doctoral training ought to take place.

The starting point

The statements made in this paper are supported by an investigation called *Personal and institutional conditions in which processes of research training in education PhD programs are generated*, which was concluded recently. The final report is being edited but throughout its implementation there were partial reports (Moreno-Bayardo, 2006) which allowed for different analyses to start being

generated, some of which were selected, according to the purpose of this paper, for being closely linked to *institutional conditions* that affect research training.

Thus, instead of a comprehensive report on the above mentioned research, the aim here is to resource to some of its elements to support the key argument of this work: although doctorates provide extremely valuable training experiences, not everything that is done in them, with the intent of training researchers, contributes substantially to this end. There are *institutional conditions*, from unintended dynamics, that promote, limit or redirect the opportunities of doctoral programs to markedly effect solid research, and therefore, on research consolidation in the universities. Differently put, the pursuit of quality improvement in graduate programs needs to pass through a systematic examination as to what actually takes place within the training processes and practices, which could then reveal situations that may go unnoticed when attention is only paid to certain quality indicators privileged by evaluating instances.

The purpose of the research that underpins this study's approach was to add to the knowledge on the training of researchers, in the field of education, in particular regarding the analysis of the multiple interlinked factors that constitute the given conditions for the processes of doctoral research training in education, a framework in which each individual sets his or her own training process.

In this research it was assumed that what takes place in the process of training students in a doctoral program can not only be explained as a result of the timely completion of tasks corresponding to each of the participants, nor as a mere reflection on the relevance of the curriculum design or its faculty and supporting infrastructure characteristics. What indeed configures the student's formation process and, in each case, explains the quality level accomplished in it, is, to a great extent, the way he or she experiences and articulates the conditions on which to participate in the doctoral program, as well as the conditions of the institution offering the program.

The research's central questions were outlined as follows: Coming from what set of conditions (personal, familial, economic, employment and training agreement) do students experience their doctoral program in the education learning experience? What are the institutions' conditions (learning experiences fostered, advising and mentoring strategies, interactions among students as well as with scholars and peers) under which these students take their doctorates in education? How is the formation process of each student configured as the personal and institutional conditions identified converge?

The constructed object of study for the above mentioned research, which incorporated *research training processes* as a central category, has features that demanded specific types of approaches:

- According to the theoretical framework on training used as a reference in this work (Ferry, 1990 and 1997, Honoré, 1980; Filloux, 1996), we first assumed that no one teaches anyone, each learner learns by him or herself, through a

process intervened by several instances, among which are the mentors and human mediators. Therefore, to learn about the training processes, the main connections had to be established with the individuals who are experiencing these processes.

- In this case, it is about research learning processes occurring at a given time over an entire doctoral program, where some students in such programs were followed up on throughout various stages of their PhD studies.
- Learning processes generate certain kinds of activities and products that are common to all students, yet are experienced according to unique features in each of the individuals involved, thus it is necessary to resort to approaches that allow students to express what they experience in this stage of their learning, how do they react, what do they consider to be meaningful, how do they perceive their learning experiences and what achievements and difficulties are they encountering.

Based on these considerations we decided to conduct an exploratory, descriptive and interpretive survey in which instrumental mediations were the following:

- Reflective reports (as proposed by Wagner, 2009) requested from each student, in which they recalled those experiences and circumstances that were still significant as to how they facilitated or constrained the completion of their objectives in the program, or as well, enabled them to build certain images about academic life and academic performance as researchers and trainers. The themes to be addressed in the reflective reports were open, there were no suggestions made by the researcher, the only instruction for doctoral students was to relate what had been significant for them at the time of their studies.
- Individual and group interviews with eleven doctoral students in education, invited from three different programs, two traditional face to face, in the city of Guadalajara and a mentorship in Mexico City. Individual interviews (17) were performed with the primary purpose of exploring the students' learning environment and, in some cases, to clarify or supplement certain reflections that appeared in their reports. Group interviews (2) were conducted in the case of the two face to face programs, mainly in order to explore institutional aspects.

Given the characteristics of the object of study and the nature of the research questions raised in the analysis of the evidence obtained to support both approaches (the reflective reports and the interviews), a qualitative approach prevailed.

Institutional conditions

After presenting the general outline for the research in question –the source of the statements here presented– and having also clarified that this paper will focus on analyzing the findings related to the institutional conditions explored (learning experiences in doctoral programs, academic advising and

mentoring and interactions among students as well as with scholars and peers), it is only left to specify that a presentation with an emphasis on strengths and weaknesses will be made in order to highlight how the current training practices in doctoral programs contribute simultaneously to enhance and limit the training of researchers, this will then allow some considerations to be made about the possible impacts, that the way research training processes in doctoral programs, as currently being conducted, may have on the consolidation of research in universities.

a) Experiences of training seminars

The Program for Strengthening the National Post-graduate Programs (2001) specifies that the *doctoral programs* prepare students for knowledge generation and innovative application. It establishes that research prevails over any other activity in the programs. Nevertheless, there will invariably be opportunities for reflection (seminars) on the philosophical, theoretical, conceptual and methodological aspects of the discipline studied. The analysis presented in this section focuses particularly on the seminars and curricular products (essays, presentations, reading reports, etc.) doctoral students generate as indicated by their teachers in these seminars.

In this regard, it is common to hear scholars who serve as instructors in doctoral programs, say that reading for students has to be abundant, that they should go to the classics in the discipline, that they need to build a broad overview of the progress of a field of knowledge, and so on. No objection here that this is desirable and necessary, the problem is that then the bet is that the reading burden becomes synonymous with the strength of the candidate's training. Therefore developing dense anthologies or large quantities of books and papers to read eventually becomes the main activity in seminars. The question is whether the student must do all these readings precisely at the stage of their doctoral training and whether the activities carried out individually or in groups related to the readings, occur in the context of a dynamic with a high potential to generate significant learning experiences.

At seminars, a series of curricular products are generated (essays, reading reports, oral presentations, etc.) aimed at learning but also evaluating. These must be carried out by the students along with their PhD research. The question is whether these products are relevant curriculum in order to support learning, but also for providing tools for doctoral students to wisely perform their research in progress. When exploring these aspects, students participating in the study referred to the workload generated in the seminars, with statements such as the following:

The exhaustive load of readings and academic products for the seminars account for most of the available time, then the research project, especially the field work, moves into the background and progress is slow. Much more than what one would hope. R1S9D3¹

Moreover, their perceptions on the relevance of the seminars in the program, reflected such aspects as those outlined below:

In some cases it seems to me that the only reason for the seminars is to keep us there, reading and reporting readings just for the sake of permanence, I think that what should prevail is what Dr. Lopez mentioned, that the PhD was only a pretext for training in the field of research, to provide us with tools that would allow us to get closer to objects of study in various ways, but it seems to me that this is not the case, although I realize that reading is one of the main tools. R8S8D3

The content of the previous paragraphs can only present a challenge for instructors because it seems that a number of seminars conducted in doctoral programs do not meet the expectations of students, which are often closely linked to what they consider particularly contributes to the research project and in any case, they experience certain resignation for having to attend seminars which relevance seems weak to them.

Nevertheless, some statements show an awareness that the doctoral seminars also provide a wider range of training than the narrow focus of enabling them to carry out their doctoral research project, but even that purpose is inadequately covered by some seminars, as reflected in some of the students' statements.

In an apparent contradiction to the desire expressed by students, that seminars substantially support their research, they recognize forms of intervention by teachers who, despite trying to make connections between the contents of the seminars with their research projects, actually generate forced situations that do not favor them, as in the case of one of the students:

I begin to despair. In each of the PhD seminars, teachers, in an effort to help with the research project effectively contribute to the level of confusion about what I do. Each teacher assumes he should get their hands on the project from their own perspective introducing a number of questions, comments and suggestions that we are required to include and from which we must rethink our own project. R1S6D3

Hence, although there are training experiences in seminars qualified as positive by students, it is interesting to note, to signal the red spots, that certain forms customary in the seminars as well as the quantity and orientation of curriculum products thereby derived, may only distract from the main objective in the doctoral training process.

¹ The code following the excerpt refers to the report number, the number assigned to the individual student, and the number of the PhD program where he or she is enrolled.

b) The symposia as learning experiences

The symposia or colloquia are academic events, usually every semester, in which PhD students present their research progress and receive feedback from experienced researchers, their own tutors, and in some cases, classmate peers. The main purpose of the symposia is to help students become acquainted with critique as fundamental to the enrichment of the products generated by the means of research, in this case, the one they themselves are carrying out.

The first impression on some doctoral symposia is that they make students wonder if these are only a rite of passage, part of the process to be legitimately accepted within scientific communities, an issue that seems to stem from in part, the lack of formality with which they are invited, especially the first few times. It is noteworthy that, although not necessarily all that is done as a ritual can be interpreted as negative, in this case such identification of symposia as rituals sounds dismissive of the learning potential that they may come to have, especially when performed in conditions such as those described in the following paragraph:

In the last symposium, apparently two of the teacher commentators were pre-disposed to ridicule those they were reading, although most readers were very professional and humane, that stigma prevailed and some of us were affected. On top of their sadism, I think their comments were somewhat shallow, some of them, may have managed to get me mad, but the reader looked bad because of his own comments. In the end, it is a test for both, even if only one has the authority. R5S9D3

These sorts of comments show that students perceive the power relations that are somehow present in conversations and in general, as noted by Bourdieu in several of his works (1976, 1983, 2000), in all processes for adding new members to the fields of symbolic production, such as that of scientific research.

This also creates tension between the intentionality of the symposia (as a space for expression and criticism), and the students' ability to incorporate that experience, which at the same time requires them to realize what takes place in a context of social components such as: the attitudes of readers and peers (which calls on the subject to adopt a critical position), and the presence of appropriate emotional dispositions to know how to weigh each comment, i.e. *to achieve a critical incorporation of criticism*.

Perhaps one of the richest moments is the reflection students make after one of these events, especially as they have experienced successive symposia. Their reflections analyze personal reactions, possible ways in which to incorporate, if any, the readers' contributions, or challenges stated by comments received, as is shown in the following comment:

My reader made a harsh critical reading, but as I had foreseen, purposeful. At this point I realized that several of her contributions had a lot to do with the things I've been wondering about over previous semesters, I think I need to allow some time to reflect on her contributions, I know there are comments that I have to gradually address, it is a growth process and this takes time. R11S8D3

On the other hand, doctoral students assume that their supervisors should be present at the colloquia, since they are more familiar with the progress of the students' research and know the process by which the work has been generated. Students also expect that the supervisors' intervention at the symposium may include observations that have already been discussed between mentor and learner, even if they indicate areas for improvement. When this does not happen, there are strong reactions among students, as manifested in the following comments:

On Friday I had to present my work, I was sad and angered that my supervisor was not present. R9S7D3

My supervisor's remarks at the symposium made me feel uncomfortable and frustrated, it seems that this has to do with the fact that he previously knew my work and had not identified any of issues he mentioned then. R11S6D3

In contrast, students who have experienced a close and constant tutoring relationship, expressed satisfaction and a sense of safety, even if the supervisor was not present at the symposium, a situation that is manifested in the following comment:

I felt much more confident and with a certain advantage over most of the group, this is because I have enough clarity on what I'm doing and I can say this is the result of excellent leadership by my mentor, who has guided me with patience, perseverance and discipline (although I did not really have any vacation), so I feel satisfied. R12S3D2

As PhD students have the opportunity to participate in more colloquia, they become more attuned in stating whether they approve or disapprove of the readers' comments, what is useful and what is not, all from a vision which seems to combine their previous ideas with the ones they build from new experiences, this is expressed in thoughts such as the following:

In the symposia we hear comments from different readers on the same product which seem somewhat contradictory, for example those that deal with different types of logic for building a theory. I think the reader should be tolerant if the student comes from a certain logic, he should point out what is needed but not disqualify any logic, I think there should be certain degree of autonomy left to the researcher. R12S9D3

It is clear to me that caution, restraint and prudence, are some of the attitudes that we must develop in a doctorate, it is something in common that I have observed in most doctors. R12S9D3

A tendency of some scholars, who are responsible for research training in doctoral programs, is to consider that *the voice that is worth listening to* in the symposia is that from established researchers who serve as readers. This is manifested, for example, by explicit decisions that exclude the opportunity of students whose results are being analyzed and criticized to reply, or in forms of academic performance, by tutors and readers involved in the symposia, which implicitly convey a message of *legitimacy of participation* which becomes understood by students. However, the ability to express disagreements or differences, to argue, defend and justify, becomes a need felt by doctoral students. This is expressed in comments such as the following:

Disagreements by the students had not been voiced to the commentators (external readers) at the conference, but were kept for corridor comments or, as in my case, for personal reflections. I think this is an area where we can still improve. Why were disagreements not expressed in public, in cases in which there were some? Why don't we defend our point of view in front of everyone, and specifically, our critics? R11S6D3

The story of the symposia, despite the ups and downs, disagreements and the various contradictory reactions they produce, seems to point toward a happy ending, because for doctoral students signs of disagreement or different expectations as to what is found at certain points, do not preclude a prevailing attitude to search for positive aspects and lessons of various kinds. Not only that, these events spark students' creativity, which in turn materializes through proposals for development and participation forms by readers that may lead colloquia to further generate better learnings yet.

Finally, the learning of critique (made and received) and to inset criticism into criticism (what to do with the comments received and how), are perceived by doctoral students as an inherent necessity in the work of researching as well as a source of much significant learnings. Ferry (1990: 79) points out that:

to live an experience, to carry out a process, are also necessary moments of the learning process. But the existential shock produced by a rupture or displacement, the energy mobilized by the execution of a task or a project, will only have lasting transferable effects when undertaking the work of elucidating it, that would lead to rising awareness, mobilizing representations and expectations.

Thus, symposia were reported by graduate students as training experiences that, surrounded by rights and wrongs, led them to learn that both critique and the incorporation of criticism is the essential nourishment for researcher's production.

c) The mentoring relationship

Expert trainers of researchers have bet on the mentoring relationship as the fundamental mediation in the process of research training, it has been described as the ideal pedagogical relationship to conduct the instructive function of doctoral programs, but from what some students express, this relationship optimally established is not something that is always achieved, thus it is important to explore what doctoral students experience in the mentoring relationship.

The mentoring relationship in a doctoral program is built between a student and a mentor whose role, clarified by Sanchez-Puentes (2000), refers to the teacher-researcher who takes responsibility for a student, promptly, directly and permanently; establishing with him or her a close personal relationship, providing individual attention where the two create a specific training project for the student in accordance with relevant curriculum, which includes strategies to create the student's doctoral research project, while advising throughout the implementation process. The mentoring relationship is intended as a form of realization of the instructor-learner relationship, the sense of which is described by Honoré (1980: 27) stating that "it is about together cultivating all possibilities of acquisition and expression, to share the cultural work in a joint effort of understanding, meaning, renewal, and at times, creation".

Students admitted to a doctoral program know that the central focus is on research training, in which a mentor and a tutorial committee, appointed by the institution, will play an important role. Moreover, almost all doctoral candidates have had the experience of having an advisor/mentor who guided them in their thesis work at the undergraduate or master's level, they already have an image of what a mentor should be (especially at the PhD level), which manifests itself in thoughts such as:

When I think of a mentor or an advisor who is involved in the research process of a student, I imagine he or she has the ability of a thermometer to pump what's needed according to the student's own needs. What I mean is that a tutor must be skilled enough to detect when the student requires direct support and guidance with precise leads, when he or she only needs to be heard and when mentoring interviews are needed. R3S6D3

As graduate students experience various situations with their mentors, they begin to express in the reflective reports a progressive discovery of what a relationship with them will be like. Thus, the reference to their experiences with the mentor may be taking the form of a growing disillusionment or portend an alive and healthy mentoring relationship which will substantially enrich the training process.

In the direction of expressing growing disillusionment, one student stated that:

The sessions with my tutor are similar to the advice I received in my undergraduate degree. A differentiation of roles is maintained. The student (me), tries to do what the program calls for and my mentor in turn crosses out what is wrong (in her opinion) and makes suggestions. Lets say it's an expert-novice interplay. Of course, my mentor is an expert at something, but I do not think she is one in my subject, which has been gradually changing. My mentor's prescription, on top of limiting my learning, is not clear as to what should I do, and what I end up doing is more trial and error. R2S3D2

Other students experience mentoring from situations that produce in them a growing enthusiasm and an increasing degree of affinity with their mentors, as stated in the following comment:

I feel very comfortable, I think I am establishing a good relationship with my mentor and she has made me feel committed to my work but with sufficient autonomy. I like the way my mentor manages the sessions very much because, in a work environment of trust, more and more I feel the responsibility of doing things right and meeting my commitments. I love how she gives me the freedom to create and develop my own abilities, while pointing out where and how to improve, it is a healthy and dynamic environment. R2S2D2

In this last reflection it is possible to identify a trait that is extremely relevant and that has to do with some training that does not lose sight of the need to prepare doctoral students for the independent work that characterizes the duty of a researcher, which is referred to by Fresán-Orozco (2001) and Moreno-Bayardo (2002) as a fundamental skill to develop in research training.

Fortunately, in most cases analyzed there comes a time when the mentoring relationship transcends the purely academic level, to make a positive impact on all aspects of the person; it is as if there could be a moment of fulfillment in the relationship, from which the line between mentor and student is a source of many learning experiences. One of the initial manifestations of having reached this stage is when the PhD student feels as if a team has been formed with the mentor, as manifested in the following passage:

One of the objectives achieved in this period was to present my thesis progress at the group level with very good results, I think that along with my mentor we have achieved our objectives and goals in an excellent manner. R7S2D2

When the mentoring relationship has been able to reach this level, students, in addition to valuing the academic guidance of their mentors, start to feel positively impacted by their mentor's attitudes, working styles and personal traits. At this point the academic plane is surpassed to incorporate, into the mentoring, all of the person's dimensions and in this relationship more profound and highly significant learning experiences are found, as expressed in the following passage:

I like my mentor's style, I've really experienced her company at all stages of the research process I have undergone so far in the PhD. Her way of working allows me to express my own responsibility in it, it gives me freedom to do, but also guides me, she expresses what she thinks about my work, but also listens to what I think of it, she allows me to set small goals or activities in each session, but remains aware of what I do and stop doing. R23S8D3

Tutors whose work style is described by the PhD students in the latter vignettes seem to have become excellent mediators in the sense of the term *vigotskian*: provide guidance, strategic support and assistance to help students take control of their own learning. In other words, they have developed what Lepper et al. (in Perkins, 2001) described as a complex pattern of interaction in which the mentor accomplishes that the student feels empowered, but in a non-management scheme, as the mentor intervenes as necessary in the student transition through various types of questions and challenges and, to the extent that this will contribute to the student reaching the zone of proximal development.

d) Educational actions

Frequent participation in processes of doctoral training in education helps to identify that some instructors assume that students arrive at this level having mastered practically all learning strategies, so that almost by themselves without any trouble they will transit through this stage of training that will allow them to obtain their degree. There seem to be cases in which a trainer decides to give a course (seminar, workshop) as part of the curriculum of the doctoral program or accepts mentoring students as a thesis advisor, comforted in the belief that there will be little work to do with an adult student who has completed all of his or her previous studies in order to become a PhD student.

It is as if the common assumption were that PhD students need little from teachers, and that educational activities at this level have little impact or relevance in terms of the learning that these students have to achieve. But we must ask what do doctoral students think about this? How do they experience the learnings generated during their doctoral program? How do they react to the various attitudes of their teachers? What do they expect from them? What do they think about the actions of their teachers in terms of helping or hindering their learning? The aim of this section is precisely to target these elements for answering these questions.

Diverse forms of participation from teachers and students are analyzed and, if necessary, challenged by doctoral students, both for what they reflect on the quality of the participation itself, and for the possibility that interventions of this nature may contribute (or not) in a significant way to meaningful learning, such is the case in the following thoughts:

Dr. Segovia has not taken a leadership attitude in the discussion given the type of questions he asks, I think his comments are more about personal opinions than substantiated arguments, and he just lets the session go by, without intervening to direct or guide the direction of the discussion. R9S8D3

Other reflections concern the dynamics that are generated in the classroom. In that sense, this type of statement comes up:

I think that the level of mastery of the course material by Professor Dominguez is not what would be expected. The dynamics of the session were structured and orderly (just as with a good moderator), but consisted of presentations from other participants with minimal relevant input from their part for which he did not care in any way about the quality of the comments by group members in terms of their relevance and accuracy on the subject. R1S9D3

As students reflect on issues involving teachers, little by little a set image seems to emerge on what teaching should be at this level, as is shown in the following reflection:

Dr. López and Dr. Ramirez are the only advisors that meet the conditions of excellence for teaching in a doctorate program in education: reliability, professionalism, ethics, mastery of the subject, knowledge of the field of education, human qualities and experience as advisors and researchers in education. As a student, in addition to the subjects of the course, I learn from their methodology for approaching the sessions, I learn pedagogy, I feel they contribute to my training as a graduate advisor, their forms of teaching, of stating issues, of fostering meta-cognition, which are certainly useful when I work as an advisor. R1S9D3

In an interesting take on the popular saying *better lonely than in bad company* there are cases where students seem to choose to discard the possibility of some of their teachers contributing in a meaningful way to their learning process. This has been seen in comments like the following:

I hope seminar X does not continue, I think that the advisor was only interested in the institutional and not individual processes, although everyone in this seminar is interested in such processes, he does not seem interested in even the possibility of adapting some of the contents to our needs, there are readings for which we cannot identify a specific purpose that will benefit us. R7S8D3

The impact of teaching actions on the PhD students learning potential are manifold, they influence the quality of academic achievement, the motivation to work (commitment), the image that the student builds on what the performance of a PhD should be, as well as influencing the decision of becoming (or not) an instructor in the future.

e) The relationship between students and instructors

Another scenario in which doctoral students discover the dynamics of the world of research training has to do with positions of authority, subordination, or power present in their relationship with instructors, which transcend beyond the purely academic purposes and are reflected in different ways in the task of training. One of which is related to the way some scholars perform their work as mentors, such is the case of the following reflection partly cited in a previous section:

The sessions with my tutor are similar to the advice I received in my undergraduate degree. A differentiation of roles is maintained. The student (me), tries to do what the program calls for and my mentor in turn crosses out what is wrong (in her opinion) and makes suggestions. Lets say it's an expert-novice interplay. Of course, my mentor is an expert at something, but I do not think she is one in my subject, which has been gradually changing. This situation runs counter to my idea on the notion of the learning process which should be discussed between the mentor and the student through concepts or representations and routes that should be revised every week. The key idea of the mentor as a guide is more akin to the representation of knowledge (mind maps or critical charts) than by my mentor's prescription, which on top of limiting my learning, it is not clear as to what I should do, and what I end up doing is more trial and error. I perceive no difference between the advice I received at the undergraduate level and the PhD program. R2S3D2

Without implying that the single case above is representative of what happens in the process of research training, what it shows is that some instructors have the intention of establishing a sort of vertical relationship with their students, which largely contradicts the notion that a crucial skill to develop in such training is autonomous and independent thinking, as suggested by Moreno-Bayardo (2002). What would students who during their PhD training continuously had to submit to the decisions and requirements of an unquestioned authority later do while executing research?

In the domain of the mentoring relationship there are also situations in which students feel uneasy with the prospect of making any reply to the comments of their mentors, as is the case of the student who, in a report, is questioned about why she did not reply to her mentor's remarks at a symposium, which had troubled her especially because he had not mentioned these issues before in private:

Why did I not reply to the remarks? I think the issue has to do with three things: first, I was too surprised to reply, the second is that it involved a confrontation with my mentor for whom I feel appreciation even though I can not see him as often as I would like to and third I think *it has to do with positions of power*. R11S6D3

It is interesting that in the previous comment there is the subtle coexistence of both an element of affection (which may become a decision making inhibitor in the context of academic rationality) as well as the reference to a mentor-student relationship that often resembles, or at least is perceived as authority-surrogate or a power-submission relationship.

Along the same vein, a student who dared to request a change of tutor expressed his reasons and fear of the consequences:

The reasons that led me to request a change of tutor are the scant sense of teamwork that my tutor showed, it was me the one who was confused, the one who wandered, and so on; the lack of communication, specifically because she told me to carry out a task and then she would deny such a thing...; I don't hold negative feelings against her, though I am concerned about her influence on the program's Academic Board, to label me a trouble student.
R14S3D2

A situation that could be considered extreme and implausible, but unfortunately frequently happens to graduate students is when they discover that one of the *game rules* (unspoken, but enacted) within the program is more or less as follows: the instructors are experts and therefore students ought not to ever dare contradicting, criticizing or replying to them. The consequences of having to internalize such a message is hard on students, as shown in the following paragraphs:

As an undergraduate and masters student I was given freedom to establish my reasons to differ from my teachers, in the PhD program I can't, this makes me insecure... I feel the urge to argue and reply when I think I am right. But that doesn't seem appropriate in this type of context, so that part of me has to remain silent, I'm keeping it under control. But, is this alright in a PhD program? E1S3D2

Moreover, the dynamics of classroom interaction, which are generated by the instructors, are in themselves a message to establish a clear demarcation of roles. In this regard one student described how a workshop was conducted, questioning it as follows:

Dr. Montes established a type of dialogue: student 1- teacher, student 2 - teacher, student 3 - teacher, student n - teacher. It was tiring because the teacher's voice dominated and as it is known, whether we like it or not, sets the tone over the group. I disagreed with some ideas put forth by one of the authors. The comment from the teacher was limiting: *I don't know whether we can argue with the authors*. I think the issue should not be put on that plane, the controversy is not with the authors, but with the ideas expressed by the authors. Moreover, if we define the debate (rhetoric or as a way to expand the knowledge of others) we should do so even with the ideas expressed by the teachers... I wonder who has the authority over knowledge in a classroom? Is it the student voice?, the teacher's?, or the voice of the book's author? R3S3D2

When encountering a situation as described in the preceding paragraph, the question is who sets the rules and limits?, Who legitimizes them? Although Bourdieu (2000: 22) argues that “there is no instance that legitimizes instances of legitimacy” according to Becher (2001: 19) an answer would be “it is those with greater prestige within the discipline who lay down rules that, for the most part, do not seem to include learning conditions”. Could this be the reason why some distinguished scholars from some disciplines carry out research training programs from the standpoint of minimizing any contribution that comes from a student, for they are not yet recognized experts in the discipline? Analyzed from the theory of the fields of symbolic production by Bourdieu, the educational research training processes therefore are not excluded from situations that characterize the field of education science, nor the state that at any given time holds the power structure, from which researchers (teachers) are involved in varying degrees according to their accumulated capital.

Nor is it a novelty that *when the child learns what a chair is, learns how to sit*, which can be translated into the process of research training in doctoral programs as students will learn what research is, but also to place themselves in the field, and where appropriate, to take positions in the game according to the rules set from the inside. Certainly without ruling out the possibility that some students may position themselves using, as a reference, the competence and disposition (or lack thereof) that they perceive their instructors may possess.

Concluding remarks

The reader will have perceived that the *institutional conditions* to which reference was made in this paper do not correspond to the institutional indicators that are traditionally studied, such as faculty characteristics, available infrastructure, production, research, student and teacher mobility, among others. This was because the approaches here incorporated arose from an analysis (via the voices of students) of the training processes and practices that occur in doctoral programs, aspects that, although not usually carefully identified in the existing forms of evaluation of graduate programs, fundamentally determine the quality of the processes of research training in such programs.

It was noted at the beginning that the main intent of this paper was to show that although doctorates provide extremely valuable training experiences, not everything that is done in them, with the intent of training researchers, contributes substantially to this end. There are *institutional conditions*, from unintended dynamics, that promote, limit or redirect the opportunities of doctoral programs to markedly effect solid research training, and therefore, on research consolidation in the universities.

Thus, based on what was presented in the section corresponding to each of the five factors incorporated into the analysis, I must insist that *institutional*

conditions such as the pressure on scholars to play multiple roles, attention to comply with indicators instead of monitoring learning processes, or the assumption that to be a recognized researcher is enough to be a good PhD instructor; bring together the research training practices and processes constrained by situations like the ones previously described.

The various indications stemming from the contributions by education PhD students are thereby entrusted as a source of reflection for all instructors participating in such programs, as well as institutions that want to convert research training into an element in the consolidation of research

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