

Teachers' inclusion in an interdisciplinary and innovative project: the curriculum of the Rural Area Teacher Education Course at UFRGS

Dra. Elizabeth D. KRAHE (UFRGS)ⁱ

“Prepared for delivery at the 2019 Congress of the Latin American Studies Association, Boston, USA, May 24-May27, 2019”

SUMMARY

In this decade, transformations in Brazilian education, aiming to qualify and democratize schools, are in the training of teachers in higher education undergraduate courses. Thus, innovation and interdisciplinarity, usually academic concepts, were implanted in curricula of some courses. We exemplify how Federal University of Rio Grande do Sul (UFRGS) planned and put into practice the Rural Area Teacher Education Course.

The proposed curricular characteristic adds specific sciences to the reality of teaching at rural societies. This concrete project conceived the training of undergraduates to work in schools in rural areas, with interdisciplinary knowledge in Natural Sciences (Physics, Chemistry and Biology) integrated to Mathematics and Agrarian Sciences.

In the curricular project we identified, described and concretized, the concepts of innovation and interdisciplinarity, as well as teaching inclusion in contemporary actions directed at the communities historically relegated to oblivion.

With qualitative method, we analyzed Brazilian's and UFRGS's teacher undergraduate courses legislation. We interviewed teachers who created the project emphasizing: planning, implementation of interdisciplinarity and innovative activities.

Triangulating data, we highlight the importance in interdisciplinary practices and the use of Alternation Pedagogy, with two periods experiences: structuring of theoretical-practical knowledge at the university; construction of the intersection of this to the application by the teachers-students in rural schools community, or students of rural areas, under supervision of university's teachers.

We highlight the importance of teacher inclusion in an interdisciplinary and innovative training project, aiming at including the rural population, teachers and students, in the contemporary possibilities of Education.ⁱⁱ

Keywords: bachelor's degree; curricular innovation; interdisciplinarity; teacher training

1. INTRODUCTION

This text presents results of an investigation on the significance of interdisciplinarity and innovation according to teachers who were architects of plans and practices at the Federal University of Rio Grande do Sul's (UFRGS) Rural Area Teacher Education Course. This course has been built in the framing of educators' discussions on more just and inclusive schools at Brazilian rural areas.

We take part of the Studies Group on University (GEU-Ipesq), at the Faculty of Education (FACED) of the Federal University of Rio Grande do Sul (UFRGS)¹. The research "Higher Education and Basic Education: necessary linkages" is connected to the studies that analyze public policies associated to multi or interdisciplinarity in Higher Education and its re-significances in different institutional models, during the last decades.

It collected data from concrete experiences of structuring and developing the course, based on the testimonies of eight curriculum planners and teachers. Grounded on principles of the qualitative methodology (BOGDAN and MARTINS, 1994), semi-structured interviews were made while reviews and categorizations were developed accordingly. The set of collected data allowed a very rich interpretation confronting theory and practice.

The main aim was to reveal how the currently very discussed two concepts - innovation and interdisciplinarity - were used in the construction of a pioneering curricular proposal of the UFRGS' Rural Area Teacher Education Course and if these were apprehended in the implementation of this course. For this, we analyzed the answers of few of the course's idealizing and implantation teachers.

2. OBJECTIVES:

Some crucial changes in Brazilian education occurred during the first decade of the XXI century, with direct repercussions on teacher training. In this scenario this research examines the current public educational policies, regarding the bachelor's degree programs, in what formula they are implemented, signified and deployed in the current national teachers' education.

Curriculum innovation and interdisciplinarity, ideas that have been in the academic circles discussions since de 1950's, in the case, have been put into practice in higher education curricula. As already discussed in Krahe (2009, 2014), many of these suggestions were partially fulfilled, although suffering from real boycotts by the teachers who were supposed to put them into practice. In this paper we will not analyze the causes, but we will show the resistance to changes, prevalent in Higher Education Institutions (HEIs).

According to Tardif and Lessard (2012), proposals for innovation in teaching have a tendency not to materialize in everyday practices. This is due the fact that most are conceived outside real class experiences, at higher education research centers, ignoring the school's context in which they occur.

Now, at the ending of the second decade of this century, this is an important warning since in the current moment Brazilian legislation once again demands the rethinking of curricula of teacher training courses.

In spite of these negative scenario, at UFRGS in 2010 began a degree course that aims to realize this ideal. The interdisciplinary teacher education in Natural Sciences (Physics, Chemistry and Biology) integrated to Mathematics and Agrarian Sciences, conceives teachers to work in more just and inclusive schools in rural areas. It is an innovative work as curriculum, assumed within the parameters of the Institutional Development Project of UFRGS, where "the engagement in the creation of new undergraduate and face-to-face courses in areas not yet served, as well as innovative areas. To meet new needs of society and always observing the criteria of academic excellence"(UFRGS, 2010, p.12)²

Now, understanding the importance of this experience as a model to Brazilian bachelor teacher's training courses, how the innovative interdisciplinary proposals associated with the ideas of a Curriculum Alternation Pedagogy were put into practice, we present here the analyses, through teachers' testimony, how this curriculum started in 2013 and its difficulties and triumphs during these years of practice.

3. THEORETICAL CONTRIBUTIONS

Since much has been written and published about changes in Brazilian educational legislation in the last two decades and its consequences in public educational policies, in this section we will not dwell on this. I only remember that we are, in part, obtaining the results of discussions of the second half of the twentieth century, when the ideas of interdisciplinarity and active participation of the students in their formation took shape and became a reality in an increasingly expressive number of teaching institutions.

Specifically in Brazil, the Law number 9394/96 (LDBEN) and its consequences opened up a new horizon of educational possibilities and obligations, not only in teaching, but also in the training of teachers for Basic Education. And this subject is what we bring now into question. The current dynamics among school / teachers / students.

The implementation and re-signification of these proposals, until then incipient in our university, of curricula that were innovative, from its construction to concretization, have had a real possibility at the beginning of the second decade

² All text and interviews excerpts here presented have been translated into English by us.

of the 21st century in the FACED of UFRGS. Thus, the project of an interdisciplinary degree is carried out, in a renewed institutional trajectory.

4. METHODOLOGY

For the development of our work we grounded it on a qualitative proposal, having the studies of Bogdan and Biklen (1994) as orientation. A case study has been made, using semi-structured interviews as one of the instruments of data collection.

We interviewed and talked with eight teachers in an intentional trial, based on the list of teachers who participated in the initial meetings of the pedagogical project formulation of a degree course that answered to the Brazilian Education Ministry's (MEC) edict; this document asked for offers on innovative proposals for teachers' training. We worked on a number of respondents that saturated the information we demanded for this research.

Our interviews were not only concerned with the construction and planning of the curricular proposal, but our interest also focused on the realization of the believed ideal. Thus, in the questions we asked, we interrogated the role of our interlocutor in the real dynamics of the curriculum of this Degree and its classes.

In the framing of a triangulation among the answers to the interviews, the studied theory and the established legislation of the proposal, we made a first approximation to the data after the transcription.

Next we will present, and shortly discuss, part of the results of the research.

5. PARCIAL RESULTS

For the purpose of this short text, we set out to describe two categories that emerged from our questions and were discussed with the interviewed teachers. They are innovation and interdisciplinarity.

5.1 Innovation

To Inovate, vt. Introduce new knowledge, methods, processes, etc. (Luft, 1984)

Having the teachings of prof. LUFT as a guide, in what refers to the proposed curriculum for the Degree in Rural Area Teacher Education, we understand that the logic that prevailed in the interviews results was the dialogue between the contents of the different areas, with the respective erasing of the boundaries of the disciplines. An innovation was built: "*training for interdisciplinary*

teaching in a curricular organization by areas of knowledge in rural schools and other educational spaces" (FEDERAL UNIVERSITY OF RIO GRANDE DO SUL, 2018, p.12).

What our university proposal tries to overcome are one of the aims of the discussions at LASA Congress 2019: "some forms of inequality and the need to promote creative solutions for overcoming them". Traditionally Brazilian teacher training undergraduate courses curricula were thought for activities at urban schools. Meanwhile rural areas schools worked with poorly educated teachers or adapted curricula based on cities realities and needs.

So, to support this innovative curriculum, the methodology of Alternation Pedagogy was used, which was emphasized in the interviews. It was highlighted both by its innovative aspect in the case of UFRGS and by the difficulties it presents in its practice, since the students selected for the first group were in service teachers in rural schools, attending to reach their specific higher degree in the subjects they taught.

The Alternation Pedagogy method proposes that the student goes during a period of the year to formal classes at the University (University time). And after this, to continue his learnings through planned and supervised work with its own rural areas classes students (Community time). The supervision being made by the same teachers that had worked with them at the University and the work at the schools on subjects that give use and continuity to the learned topics while on University time and all this very much related to rural area concrete reality problems.

A great number of students abandoned the course, as justified by a teacher:

"The withdrawal has been justified as caused by the model of alternation, not for the alternation itself, but for the unfeasibility of an adult audience stop working. Because with the alternation you have two weeks of presential classes, a time out (of your school), two weeks of class, for every semester." (prof. L. p4)ⁱⁱⁱ

Here is an illustrative excerpt from an interview:

"(...) especially in the community time, because the question of alternation is an archipelago of questions that can be treated in isolation, it is an experience that is being built within this course, UFRGS has no experience in this." (Prof. E. p.7)

In the following question, also dealing with an innovative component, the supervision work during Community time, a teacher said:

"That's why our argument was that the teacher should not get involved with other undergraduate courses, because there the logic is disciplinary, it has to be every week, at such time, at such day. So how will he be going to move to a more distant city, stay there all day?" (Prof. J. P. 8)

We bring these excerpts, to point to the uncertainties indicated by the respondents to our questions. They are part of the problems that may eventually occur in innovative full-time curricula. Repeating, the alternation proposal

represents for the student-teachers the withdrawal of their teaching activities, for relatively long periods while the face-to-face activities are developed. These activities occur in dependencies of the university, in Porto Alegre.

In a differentiated form of initial or continuing training courses for people already teaching, done in other HEIs or in UFRGS itself, this degree is developed during the official school year and not only during school vacations. This characteristic represents a good intention of the idealizers of the curriculum, and was endorsed by partner institutions such as education secretariats; however, in the concrete reality this calendar proved to be an obstacle to the continuity of the studies to an important number of the students who had been selected for the first group. At the schools where they worked, there was a lack of substitute teachers for their functions. In short, they did not receive a dispensation from classes work to attend the University time classes that the course demands.

As a result, this innovation, the alternation between face-to-face activities and activities in supervised schools of origin, proved to be an impediment to the full realization of the students in the first group. As consequence, the next groups that were formed underwent an important modification on the profile of the students. But this is not a subject to be explored in this text.

Also, important to point is the fact that the teachers who volunteered to work with this project had a differentiated profile at our University. As appointed by one of our research's interviewed:

"All teachers who are there, working with the rural area education course, have research and extension linkage with rural area education studies." (Prof.E., p. 6)

Here we emphasize the testimony of a colleague when indicating the unfamiliar in this proposal of the effective inclusion of the surroundings and the knowledge of the student in the pedagogical works. He stated:

"I think the interesting thing about this Rural Area Education curriculum, ours, the one here, is that we work with the pedagogical presupposition that is understanding, so to say, it is the analysis of otherness and thinking the other in its place, in certain work processes; and of reciprocity, that is, he has a knowledge that must be considered ... It is understanding, reciprocity and criticism as method" (Prof. P., 5)

However, not only did the students find difficulties in the curricular proposal of the UFRGS Rural Area Education Degree. As one interviewee clearly stated, indicating behavior of the course's own teachers:

"While it had a certain appreciation for innovation, it had resistance in many ways. First because it really was a very bold proposal, and then he (the teacher) would have to leave the accommodation, the planning of his discipline that he had come with for a long time ..." (Prof. J, 4)

The above line of thoughts denotes to AGOPYAN's writing referring to interdisciplinarity as an innovation: "(...) paradigms must be broken and rooted habits overcome, demanding a behavioral change of all the actors." (2011, apud PHILIPPI JÚNIOR , 2011, P. XIII)

5.2 Interdisciplinarity

"(...) interdisciplinarity as an alternative way of producing scientific knowledge, given the complexity of the contemporary world" (Alvarenga, Philippi Jr et al, 2011, p.13)

Once again a subchapter with a quotation, this time from contemporary studies on interdisciplinarity. The theme is present in practically all current discussions about curriculum, but as the answers transcribed below indicate their implementation is often difficult.

We begin by quoting one of the specific objectives of the UFRGS' Rural Area Education Degree. It is clearly summarized in a sentence the objectives of this project. It is possible to infer that, unlike the other teachers' education degree programs in specific areas, the university proposes one that encompasses a set of knowledges, specific and pedagogical, that will enable the future graduated to practice classes in an innovative model at a definite social environment.

"To train and enable professionals to practice teaching in the area of Natural Sciences in an interdisciplinary way in rural schools." (Federal University of Rio Grande do Sul, 218, p.10)

One of the course's teachers pointed to a very important aspect to curricular modifications, the need to change one's understanding of how we learn, our way of seeing and thinking the world, in other words, what should be a good educational method. He said:

" (...) the interdisciplinary look is beyond discipline, it is in a world view that properly (that's what I think), properly articulates disciplines around common themes, which is what most people see, at least in the natural sciences." (Prof.N., p2)

Validating the project, one of the interviewed professors, with a strong role in the Degree course, spoke about interdisciplinarity and the experience in the project's classes: *"This dialogue of knowledge, which is sometimes not just a methodology, but a vision, the one experienced there (...)"* (Prof. M., page 19). I note that the emphasis is ours, because we want to accentuate the concretization in the classes of this specific course of the assembly of varied knowledges proposed by the idealizers of the project.

The difficulties for projects with an interdisciplinary curriculum begin with the teachers' understandings and inexperience with such a proposal. As pointed in the interviews:

"There are those questions that are normal in the courses, in a general way, that some colleagues can take tenure of the project and others do not, and the very

perspective of what is education in rural area; I think that this is the main problem we have today, to understand interdisciplinarity." (Prof.N., p.13)

On the other hand, other deponents reaffirmed the existence of the dialogue of knowledges in the formation of these new graduates, as quoted below:

"Producing new knowledge from this juncture of perspectives on a particular theme may be what I imagine as something that goes closer to what we would call interdisciplinarity ..." (Prof. E., 8)

"(...) combined physics, chemistry, mathematics and biology. So, we knew we had to integrate these four disciplines. And also integrate with the rural culture." (Prof. H., page 4)

In numerous ways the teaching in a shared way posed difficulties, by the new perspective, that is established in the Rural Area Teacher's Degree course. This was quoted in more than one interview. Below are testimonials from teachers who emphasize the need to think about the exotic situation for most of the higher-level teachers. This situation is created when they are faced with coworking with colleagues. Adding to the degree of complexity the fact that in this project of UFRGS, teachers belonging to several academic units, among them Pedagogy and Agronomy are supposed to work together, sharing contents and classes.

The schoolroom work routine is traditionally exercised by only one person. The majority of graduate courses form their students aiming to work solo. In the case of this course, along with the objective of training teachers with a multidisciplinary domain to exercise the interdiscipline in their classrooms, it allows the pedagogical work of university teachers to be shared by colleagues from different complementary areas. This, of course, is beyond interdisciplinary an innovative exercise, socializing, exhibiting and sharing knowledge, unusual among subjects from different Academic Units. We heard that:

"(...) I think interdisciplinarity has much to do with the enunciations in which people, with their knowledges - their knowledge of experience - can articulate. I imagine that only thinking about the areas, and hence 'I need to have representatives of physics, chemistry and biology', without thinking about who these people that will be together really are, interdisciplinarity will not work." (Prof. D., p.7)

In turn, the alertness of one of the earliest teachers of the project leads us to think about the fundamental maturity of institutions when innovative ideas are put into practice. He stated categorically:

"Interdisciplinarity does not solve problems, it creates others. It does not come to make things easier, the easiest is to work each one in his/hers little corner and it is enough. So, overcoming this perspective of knowledge disciplinarization is far beyond setting up an interdisciplinary curriculum that will articulate different areas of knowledge." (Prof. N., p.9)

One of the answers we think important to share in this text, in the case of the pedagogical form, the methodology, employed in the implementation of the Rural Area course proposal, explained that:

"(...) the Alternation Pedagogy, makes in practical way possible to carry out the interdisciplinarity, because there is the relation between theory and practice; the projects in the University Time planning this students follow-up process, the experiences, the understandings, for example, the Generator Theme. "(Prof. J., p.11)

Once again it is worth stating part of the Pedagogical Project of UFRGS' Rural Area Teachers' Degree Course

"(...) three alternating moments per school semester will be proposed, in order to allow different interfaces between the worlds of rural life, in particular the worlds of teaching and rural work, and the academic world, properly mediated and problematized by the pedagogical interventions of the professors and teachers of this University team" (FEDERAL UNIVERSITY OF RIO GRANDE DO SUL, 2018, page 5)

The sharing of knowledge and experiences between educators and students of the teachers' course under analysis is palpable, both in the project's theory and in the practice as described by the colleagues we interviewed. It has not been limited to conferences at the university quarters, but essentially vital the experiences of students as teachers in rural basic education putting their learnings into practice under supervision and help of the university's teachers.

We believe that this innovative degree course at the Brazilian UFRGS, answers in a certain way to the objectives of social justice and inclusion that are the motto of LASA 2019 Congress. We have here the tentative of a solution for the historical lack of education of rural areas teachers. In this perspective the testimony we present to conclude this brief article; in a certain way it aims to adequately summarize both the underlying theory of the project and the experienced practice in the concretion of the work of UFRGS in its mission to train teachers for Brazilian Basic Education, whatever the situation in which the school is located.

"At that meeting, in this connection of these knowledges one can think of a possible interdisciplinarity. As interdisciplinarity not in the sense of one discipline, a discipline of knowledge. When we develop a project and bring different knowledges into the disciplines, and he goes to the field to search, look at that context through the intervention of teachers who individually have a discipline, but who toss into a project a network, it seems to me that it is a possibility , but it is much more for the individual student to do the interdisciplinarity, than for the teacher when offering this product, (...)"(Prof.L., p.3)

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ⁱ ELIZABETH DIEFENTHAELER KRAHE ⁱ

Degree in Portuguese and English Languages and Literature from the Federal University of Rio Grande do Sul (1970); Master's degree in Education from the Federal University of Rio Grande do Sul (1991); Doctorate in Education from the Federal University of Rio Grande do Sul (2000). Collaborating Professor of the Department of Specialized Studies at UFRGS. Associate Professor at the Federal University of Rio Grande do Sul. She was an Advisor at the Graduate Program in Education at UFRGS. She is an adviser IC UFRGS CNPq. Member of the Latin American Studies Association (LASA) and the Southern Brazilian Researchers Network of Education (RIES). She has experience in Education, with emphasis on Administration of

Educational Systems, working mainly in the following subjects: teacher training, curriculum, university pedagogy, and university innovation.

ⁱⁱ Parts of this text have been publicized in Portuguese at Education meetings in Brazil.

ⁱⁱⁱ We use interviewed teachers's name initial and number of the page of transcriptions