

The Impact of a Distance Undergraduate Pedagogy Course in the Didactic Practice of Teachers: the UniRio/CEDERJ experience

05/2008

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Category: F – Research and Evaluation

Educational Section – Undergraduate

Paper type – Research Report

Class – Innovative experience

Abstract: the goal of this paper is to present the results of the assessment experience about the impact of a distance Pedagogy Undergraduate course, for the initial series of Elementary Teaching, in the didactic practice of graduate teachers in UniRio – Federal University of Rio de Janeiro, Brazil, in a partnership with CEDERJ – Centre for Distance Undergraduate Teaching in the State of Rio de Janeiro. This analysis was possible due to a quantitative /qualitative survey using a questionnaire which asked the graduates questions about the distance education systemic model steps of the course and it was applied in two classes, both of them in the first semester of 2006 and 2007. This survey has involved 247 students who have been assigned to eight regional centres of CEDERJ for attendance in the interior of Rio de Janeiro state. The results show that the teachers have improved both their didactic practice and professional life due to the knowledge acquired during the distance education course. Also, the knowledge that has been generated by their monographs has been applied in the educational institutions where they work.

Key-words: Distance Education, Evaluation, Systemic Model, Pedagogical Practices, Elementary Teaching

1. Introduction

The Information and Communication Technologies (ICT) advances, mainly the Internet, are provoking a change in the teaching-learning process of the traditional classroom that represents a great challenge and innovation. The web, for example, can be considered as a democratic environment for a large number of users because it allows to access information from all over the world.

The use of these technologies is facilitating various logistical and pedagogical benefits such as: the rapid transmission of information at any time and everywhere; a stimulus to the autonomous learning; greater interactivity between teachers and students; greater individualization, which could improve the programs quality, and a more effective learning [1]. Therefore, the main consequence of the ICT use in the teaching-learning process is the breaking of the barriers imposed by the limitations of time and space, typical of a formal traditional school. This fact is provoking the emergence of other educational modals that should make use of new technologies, creating a "Learning Society", which means that everybody should be in a permanent learning state and it is based on information [2]. In this context, distance education appears as a teaching model, that promotes opportunities for learning, which have been applied mainly in undergraduate distance courses offered by universities and can facilitate as the self-development as the continuing professional education [3].

This way, there is an increase in distance education courses in the world and Brazil is well positioned in this educational model because it has already developed some models for distance undergraduate courses, for example, one has been adopted by the Consortium CEDERJ - Centre for Distance Undergraduate Teaching in Rio de Janeiro State (<http://www.cederj.edu.br>). CEDERJ is associated to the Foundation CECIERJ - Centre for Science and Distance Undergraduate Teaching in Rio de Janeiro State [4] and its goals are to promote the distribution of quality and free distance undergraduate courses. Also, it offers extension courses for the continuing education of Elementary and High School teachers.

CEDERJ is a consortium of federal and public universities (UFRJ, UFF, UFRRJ, UniRio) and state universities (UERJ and UENF), that offer distance education courses using the bimodal model. There are degree courses: Biological Sciences, Mathematics, Physics and Chemistry. Up until the second semester of 2007 (2007.2) a distance Pedagogy course was offered. This was only for an initial trial of elementary education and, since the first semester of 2008 (2008.1), it has begun to offer the complete Distance Pedagogy course. It already offers the Administration and Technology and Computer Science courses.

At CEDERJ Consortium is being used as a distance education model that joins present meetings to distance ones using: 1) published and web didactic material that is produced in a specially for distance education; 2) part-time and online tutors; 3) laboratorial practice classes in the attendance spaces and in university spaces of the consortium; 4) classroom and online evaluations. The published material is already made available in an e-Learning environment, which offers many tools, as chat, e-mail, forum, tutorial class, PDF and web classes.

The distance Pedagogy course has been offered only for the initial series since 2003. This course is a partnership between CEDERJ and two

public universities of the CEDERJ consortium which are located in the city of Rio de Janeiro: UniRio - Federal University of Rio de Janeiro and UERJ – State University of Rio de Janeiro. In 2008, it is being offered in a partnership with the curriculum of the new distance Pedagogy course to attend a government selection, the law CNE/CP nº 9/2001 and 27/2001 and the Resolution CNE/CP nº 1/2002, which establishes National Curriculum Directives for Teacher Training.

2. The Context of UniRio's Distance Pedagogy course [5]

The course provides a professional commitment to active citizenship, so it is based on a transcendent and processing vision of the world, whose intention is to form a professional reflective and critical course. In addition, students receive a strong philosophical, anthropological, biological, psychological and historical knowledge base which are the Fundamentals of Education, and are prepared to exercise an important role in eradicating all forms of discrimination, from its commitment to inclusive education and cultural diversity.

The initial proposal of the course, which had its first class in the second semester of 2003, was to offer a distance degree course in Pedagogy to work only on the initial series of basic education. For this reason, the course was given a duration of three years. This was due to there being, at that time, a large number of teachers who were working in elementary schools, without a Pedagogy Undergraduate course as training. However, this was changed in the second semester of 2007.

From the first semester of 2008 onwards, a four year, distance Pedagogy course is being offered. This new curriculum has an interdisciplinary approach from a world vision considering the distance education methodology. The graduate professional may work in elementary school (kindergarten and initial series), vocational education, high school (teacher training), management (administration, supervision, guidance), adult and youth education and informal educational spaces. In the first semester of 2008, 2800 students were registered on the course, 44 subject coordinators, 67 online tutors and 137 part-time tutors are now working together with the academic and general course coordinators.

The teachers who prepare the course are: the coordinator, the subject coordinators, the part-time tutors and online tutors. The main function of a tutor is to monitor the learning process of the students and always stimulate their autonomous learning. Hence, it is essential that there is cooperation between the teacher and the coordinator of a subject.

The methodological approach of the course includes challenging and motivating situations based on a constructivist theory, which facilitates self-training and autonomy, which represent fundamental characteristics in the distance learning.

To achieve, in practice the application of theoretical principles, the course uses: printed and web material, video, audio, multimedia, Internet, chat rooms, e-mail; forums. It should be emphasized, however, that the use of ICT will only make sense if it is directly associated with construction of knowledge, aiding the transfer of knowledge and skills.

3. Main theoretical concepts that motivated the research

The main theoretical concepts that have motivated this research are described below:

3.1 A systemic model for Distance Education

A system of distance education is formed by all the components that operate when there isn't a teacher or student presence during the teaching-learning process. This system includes learning, teaching, communication, creation and management [6]. The main components of a general pattern of distance education are listed below:

- *A source of knowledge that must be taught and learned;*
- A subsystem to structure this knowledge in materials and activities for students is called "courses";
- Another subsystem to transmit the courses for students;
- The interaction between teachers and students using these materials to transmit the knowledge that they hold;
- Students in their different environments;
- A subsystem to monitor and evaluate the results to allow possible interventions when failures occur;
- An organization with a political and an administrative structure to link these different components.

The systemic approach, introduced by Moore [6], is essential for the understanding and practice of distance education.

3.2 The evaluation in the Pedagogy course of UniRio/CEDERJ

Continuous evaluation may be a good strategy to ensure the quality and monitoring of all components of the distance education systemic model.

3.2.1 The contribution of institutional assessment of the Consortium / CEDERJ

The CEDERJ evaluation is an institutional and educational process and its main purposes are: 1) to search for a new meaning for the consortium; 2) to provoke a critical reflection about the public university's role in the democratic process, considering knowledge relations within the state of Rio de Janeiro.

During the institutional process, the course can be analyzed from a broad-based conception and structured in two large blocks or two speech specified lines (or lines of discourse) establishing real polyphonic voices. The first line concerns the respective course as a product already established and consolidated, with an unambiguous and institutional sense.

The second deals with the course as having an interactive dialogue open to negotiations during the process of distance education. In relation to the apprentice perspective, the application of the institutional evaluation allows students to rebuild themselves in a particular and individual way. This is an essential model to face challenges and dilemmas caused by the course inside the universities and in the context of the Consortium.

The issues raised by institutional evaluation are related, especially, to the reflection of "making pedagogical teaching" to the distance education. However, it is important to stress that the complexity of teaching practice should be transformed into an object of study that requires a deep understanding of all the constituent elements.

3.2.2 The monitoring and evaluation of the distance Pedagogy course

The course is an effective partnership with the academic, Federal University of the State of Rio de Janeiro - UniRio and the State University of Rio de Janeiro - UERJ. This course started in the second semester of 2003 (2003.2), with a target audience of teachers who were working at the state and municipal teaching networks. These teachers have not yet graduated in Pedagogy. The course offered by UniRio currently operates in eight regional centres (08) and two (02) regional sub-centres, located in the following municipalities in the State of Rio de Janeiro: Saquarema, Piraí, Volta Redonda, Três Rios, Cantagalo, Itaocara, Santa Maria Madalena, São Fidélis, São Francisco do Itabapoana, Bom Jesus do Itabapoana. In each of these centres, there is a part-time tutor for each subject offered to students. Each has two online tutors and a coordinator teacher carrying out their activities in centres / sub-centres and at UniRio, in order to monitor, orient and evaluate the students during their journey of learning.

In this context, the assessment is viewed as an educational practice, seen as a political activity, whose role is to provide elements that support and mediate the actions between needs and educational reality, aiming at the improvement of everyone involved [7].

Each semester, Educational Evaluations are carried out, with the participation of: disciplines' coordinators; academic team coordination. These councils have the guidance of the evaluation coordination of the course. The purpose of these meetings is to identify, during each academic period, the pedagogical actions that are necessary and that will contribute to the progress of students. These meetings also make it possible for teachers to deal with critical understanding of reality in which they are included. Making diagnosis about progress and obstacles easier to identify, teachers can act and correct with ease.

During the pedagogical coordination of the course, as a team discuss the assessment of student's learning; the study progress; truancy rates; the attendance of students on the course; the differential rate of learning and repetition. Also, there is the proposed implementation of pedagogical activities, which value the educational practice, and the quality of students' learning, aiming to contribute to the enrichment of education and evaluation experience of the course.

In this way, with the improvement of various pedagogical activities it has observed the importance of broadening the coverage scope of the learning assessment, with a view to checking the impact that the Pedagogy distance course is causing in the didactic practice of teachers. In this context, the procedures for monitoring and evaluation are intrinsic to educational processes, whereby we can raise indicators that will show us whether the learning was effective or not.

For Alonso (2005) [8], the evaluation process is based on systematic work, that is, it is necessary to establish criteria so that it is aimed, considering the various dimensions of an educational process. Abramowicz (1994) [9] advocates the political dimension; Esteban (2000) [10] points out the ethical dimension and Rodrigues (1993) [11] presents the curricular dimension. These studies bring methodological and practical implications for the assessment of teaching-learning process. For example, for Rodrigues (1993) [11], the curriculum is an important dimension in the school evaluative process, since the

performance of educational systems must be guided by the teaching aspects that they are covered for.

4. Evaluation of the Distance Education Pedagogy Course

In this item are shown the results of a qualitative/quantitative survey, conducted with graduate students in the second semester of the years 2006 (2006.2) and 2007 (2007.2), which were trainees of the 2nd and the 4th groups. The main objective of the survey was to show the impact that the course is causing in the didactic practice of teachers.

4.1. The research methodology

To investigate how the course is interfering in the graduate student's teaching practice, it selected some students who were asked to complete a questionnaire addressing issues related to all stages of the systemic model of distance education. The steps of the methodology used are presented below:

Step 1 – Elaboration of the questionnaire, the instrument of evaluation with validation. The questionnaire was distributed with questions split into 7 blocks: 1) personal and professional profile, 2) interest in joining the course, 3) opinion about the curricular proposal, 4) organization of the course and support structure, 5) opinion about the educational materials and platform; 6) about the monograph, 7) about the impact of the course in teaching practice.

Step 2 - Implementation of the evaluation instrument with the sample selected from two semesters (2006.2 and 2007.2).

Step 3 – Survey of qualitative data through the categorization of the answers to open questions, and quantitative data, through the development of graphics, depicting the answers to closed questions.

Step 4 - Analysis and interpretation of data, collected from the answers given by students, to verify the contribution of the course in improving teaching practice of graduate students. The survey has attempted to assess various aspects of the course separately. Also, there was a block of questions in the survey devoted to assessing the impact of the course. One way of understanding this impact was through the scouting of the monograph (final work) with the professional performance of teaching practice of the graduate students.

Step 5 – Search in schools near the regional centres of CEDERJ focusing on the implementation of strategies to improve the course.

4.2. Analysis of data

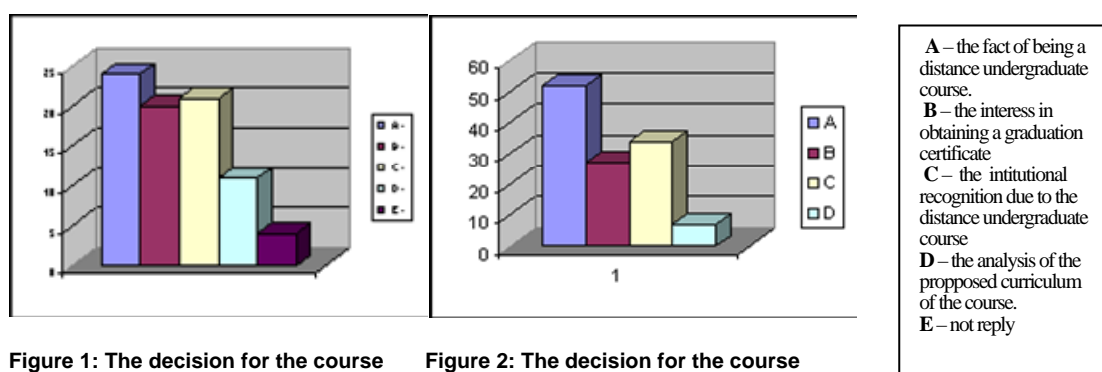
It took up the universe composed by the graduated students from classes of 2006.2 (112 students) and 2007.2 (135 students), representing 247 students. 84 graduated students (90.5%) from the class of 2006.2 replied to the questionnaire and 62 graduated students (72.5%) from the class of 2007.2. The sample size would be satisfactory for most analyses. That is, it has tried to use the tool of the confidence interval when the accuracy proved to be sufficient to guarantee the conclusions.

The profile of the respondents showed a huge trend towards females (99%). With regard to age, it was found that it was in the range of 25 to 50 year olds, featuring a target public with professional experience.

Upon completion of the survey, 63 teachers (90.5% of respondents of the class of 2006.2) and 45 teachers (72.5% of respondents of the class of

2007.2) claimed they were working directly with the elementary teaching. It must emphasize that 66 teachers (77% the class of 2006.2) and 42 (67% 2007.2) also claimed that it was due, in some way, to their participation in the course. It is possible to deduce, therefore, that the course achieved its original objective, which is the expansion and internalization of quality, free education, aiming mainly to the improvement of the didactic practice of public network teachers of elementary education in the State of Rio de Janeiro.

Figures 1 and 2 indicate that, among several factors that influenced the decision of students to take the course, the fact that the course was offered at distance has been selected for about 52 respondents from the class of 2006.2 and 24 from the class of 2007.2. It is important to emphasize that each student had the option of choosing more than one alternative (A-E), as is showed in the text box next to the figure 2.



Another important result should be highlighted as the recognition by students regarding the institution (UniRio) which was offering the distance course, since 34 valid answers were obtained (40%) to 2006.2 and 21 valid responses (30%) to 2007.2.

There was, in the survey, a question about the general assessment of the course. In the class of 2006.2, about 68 teachers (80.6%) evaluated the course as very good and 15 teachers (17.8%), as well. On the other hand, in the class of 2007.2, about 114 teachers (84.5%) evaluated the course as very good and 18 teachers (13.1%), as well.

Several factors may have contributed to this result, among them, we can highlight the answers of some respondents who said that: **a) I learned a lot, and I am applying the knowledge to my practice; b) my posture has improved and my professional knowledge was perfected; c) I feel that my development was very high, mainly because it is a distance education course with a very enriching content; d) the course contributed to my professional development and changed my pedagogical practice; e) I had a great development as a person and, especially today, I can work based on theoretical knowledge.**

When asked if the proposed curriculum of the course was appropriate and if it has contributed to their formation, in the class of 2006.2, about 79 teachers (94%) considered that it had contributed a lot to their professional career, also, in the class of 2007.2, 120 teachers (88,7%) felt the same. We emphasize, as follows, some of the respondents reported that this differential of the course: **a) the curricular proposal has enriched my practice; b) because I could revise my teaching practice, seeking improvements and more knowledge;**

c) *the course has led us onto reflection and action, seeking to review our practice and make necessary changes. After all, we are constant researchers;*
d) *the course gave me new perspectives and new attitudes as a teacher;* **e)** *the curriculum covers various disciplines in an integrated manner.*

Figures 3 and 4 show that the monograph of the course was linked directly to the area of professional performance, or activities carried out by respondents in the institution where they work. This occurred for 76 teachers (90.5%) in the class of 2006.2 and 117 teachers (87%) in the class of 2007.2.

We can check these positive results highlighting some reports of respondents: **a)** *I did research and work with my class, and all teaching staff in the school;* **b)** *the study aimed to bring greater understanding to the relationship between professionals in my school and the enhancement of their work;* **c)** *the theme that I have studied helped me to understand the difficulty that students may have on writing various texts and to find more adequate ways to solve them;* **d)** *the study helped me to understand the behaviour of oblivious and agitated students;* **e)** *the development of the education theme children, gave me much support and security to work in the classroom with the students.*

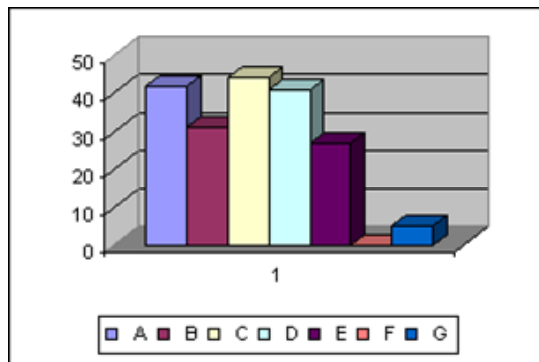


Figure 3 – Monograph – class of 2006.2
A=42;B=31;C=44;D=41;E=27;F=0;G=5

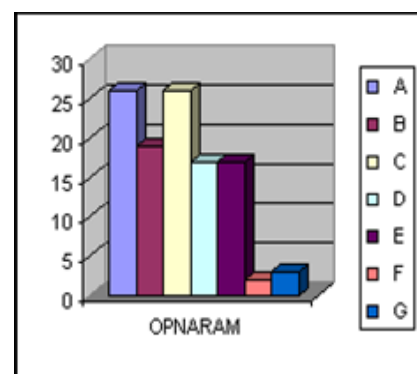


Figure 4 - Monograph - class of 2007.2
A=26;B=19;C=26;D=17;E=17;F=2;G=3

A – In the definition of the subject.	E – In the indication of bibliography references.
B – In structuring the hypothesis of working	F - Other. Specify.
C – In the construction of the monograph theoretical reference da monografia.	G – Not reply.

In the class of 2006.2, 67 teachers (79.7%) claimed that, the institution where they work, learnt the monograph. This was also experienced by 102 teachers (75.8%) from the class of 2007.2. Some of the practical developments reported from the monographs are: **a)** *the theme of the monograph is part of the Pedagogical and Political Project (PPP) of the school and it is developed in the classroom with the students;* **b)** *the monograph, besides being applied in my school, was extended to other schools;* **c)** *the monograph contributed to evaluate the pedagogical work of my institution;* **d)** *I have changed my teaching practice during the elaboration process of the monograph, the more I researched, the more I learnt and used this learning in my work as a teacher;* **e)** *the study made to produce the monograph allowed me to teach my students with games and jokes, using an interactive and pleasant methodology for them.*

In the class of 2006.2, 76 teachers (90.4%) replied that the course

contributed to their personal development. For the class of 2007.2, this occurred with 117 teachers (87.1%). For 4 teachers (4.8%), this happened in a reasonable manner in the class of 2006.2 and 13 teachers (9.7%) in the class of 2007.2.

Figures 5 and 6 show how the graduate teachers and respondents are applying the acquired knowledge from the course to their professional practice. In the class of 2006.2, 66 respondents applied such knowledge in projects, 40 applied it in research, 4 in scientific production, 4 in congress, 11 have responded to other practices and 10 have not replied. However, in the class of 2007.2, 49 respondents applied the acquired knowledge in projects, 31 in research; 2 in scientific production, 2, in congress, 9 in others, and 1 has not responded. It is important to emphasize that each student had the option of choosing more than one alternative (A-E), as is showed in the text box next to the figure 6.

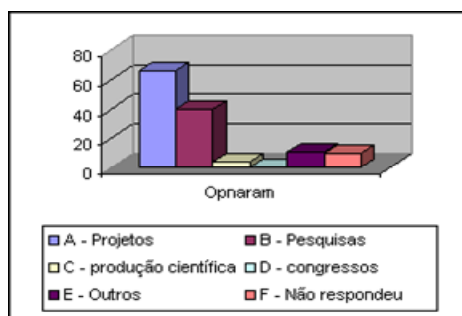


Figure 5 – Knowledge application the class of 2006.2

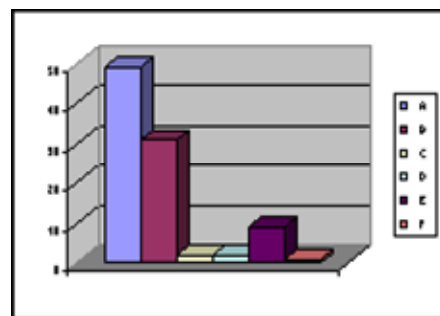


Figure 6 – Knowledge application the class of 2007.2

A - Projects
B- Researches
C – scientific production
D-congresses
E – Others
F – Not reply

Regarding the role of multipliers of some knowledge acquired in the course in the class of 2006.2, 60 teachers among the respondents (71.40%) stated positively, while 19 teachers (22.60%) answered that they weren't multipliers. On the other hand, in the class of 2007.2, 96 teachers (71%) replied that they were multipliers, while 37 teachers (27.4%) were not. It is good to remember the number of teachers which did not reply to the question, that is, respectively 5 teachers (6%) and 2 teachers (1.6%).

Those teachers who were multipliers applied the knowledge acquired, either as a teacher through an exchange of experiences, class councils, classes, meetings, research or as a pedagogical advisor / coordinator in the projects evaluation, among others reasons in the institution where they act.

5. Final Considerations

The experience with graduated students of Distance Education Pedagogy course of 2006.2 and 2007.2 highlights some challenges of the course, such as to propose and to implement actions that have valued the pedagogical practice and learning quality of the teachers who have participated on it, aiming to contribute to the enrichment of their educational experiences in the school environment .

The results showed that there was an improvement of professional and personal performance of the respondents, who have passed on knowledge acquired during the course. Also, most of the research work, related to educational activities generated from the monographs has been applied in educational institutions where they work.

So, we can assume that the course has fulfilled its primary objective, which is to promote the expansion and internalization of free and quality higher education in the distance mode, aiming mainly to contribute to improving the pedagogical practice of teachers from the public network basic education in the State of Rio de Janeiro.

It can be claimed that the curriculum structure of the distance course, combined with innovative strategies of teaching-learning, effectively contributes to the training of teachers in elementary school. The research shows the importance given to the course for the professional performance of teachers who participated in the research, which can be substantiated by the fact that most of them said to be applying the knowledge acquired in the course in their pedagogical practice.

In relation to the investigation about the transfer of the knowledge acquired during the course in teaching practice, it is considered that certain issues raised by the research would need to be expanded to the institutions in which the graduated teachers are acting professionally. Thus, it could be better to identify the importance given to training and the support that the institution provides for the development of innovative experiments in order to examine the possibility of implementing this practice.

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