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Full Length Research Paper

Distance education for specialization of teachers in technical professional nursing in Brazil

***[1]Rosangela Andrade Aukar de Camargo, [2]Marcelo Duarte Ferrari, [3]Andresa Mercedes Araújo, [4]Marta Cristiane Alves Pereira**

[1,2]University of São Paulo at Ribeirão Preto College of Nursing, Department of Maternal-Infant and Public Health Nursing.
[3]Faculty of Education São Luís at Jaboticabal.
[4]University of São Paulo at Ribeirão Preto College of Nursing, Department of Fundamental Nursing.

Abstract

The requirement of the Health Politics and the constant demand for professionals has favored the opening of professional education schools forming nursing technicians. However, the number of nurses with pedagogical formation is not sufficient to fulfill these courses. Distance learning proposes to fill this gap creating an interactive teaching dynamics. This study evaluated how many nurses have finished and their difficulties in doing Distance Education in the Specialization of Teachers. This was a retrospective research in a private college in Brazil. The sample was of 120 students from the 2009 to 2010, in 11 regions of education. The data has been collected from the system of communication and in academic office. Results: 88% of the students finished the course, and the difficulty in accessing the system was reported by 67% of them. 92% of respondents preferred the Forum because the scales of shifts limited the chats. 32% of the students approved the methodology of the course, however 70% still preferred face-to-face courses for they value dialogue or because they do not dominated the technological process. Acceptance of distance learning courses to train teachers in nursing still shows pedagogical and technological resistance.

Keywords: Education, Distance; Education, Professional; Education, Nursing, Graduate; Education, Nursing.

INTRODUCTION

Human resource training constitutes the basis for the realization of health actions and services.

Education nursing, in turn, have been discussed in the literature of this area since the beginning of last century, due to the close relationship between these actions and the health and economic policies implemented in Brazilian society, the service of a determined social control to ensure the interests of the dominant class (Göttens et al., 2007).

Brazilian public health history up to the Unified Health System (SUS in Portuguese) implantation, of with doctrinal and administrative principles are universality, equity, integrality, decentralization, and social participation, set its roots only in the later part of the twentieth century, out of the Campaigner Sanitarian Model led by the health physician and researcher Oswaldo Cruz, who fought smallpox and yellow fever epidemics in the coastal towns. Those diseases were endangering foreign trade, as European ship captains refused to dock here out of fear of contamination of their crew (Faleiros et al., 2006). The economic losses mobilized the Brazilian government into creating the National Public Health Department — and also the Ana Nery Nursing School in the city of Rio de Janeiro to train health nurses using the “Nightingale model”. Nevertheless, as women had poor or incomplete education at the time, few could enroll at the School. As an alternative, an intermediate-level, nurse-guided professional was created in order to take care of the sick. Those auxiliaries couldn’t hold educational or administrative positions, however, as those functions were restricted to the professional undergraduate. In fact, the very first auxiliary nurse course, which came to be in

*Corresponding Author E-mail: rcamargo@eerp.usp.br

1941, had a clear distinction between those who held the knowledge and those who executed manual labor (Abrão and Almeida, 2007). In the twentieth century, the nursing course gains prominence in Brazil when the city began to count more inhabitants in it, if compared to the countryside, and also with the construction of a myriad of hospital as a result of curative assistance policies of the biologic model (Faleiros et al., 2006). But, mainly because of the economy those institutions made, up to the 1970's they hired nursing attendants almost exclusively, that is, informally trained people whose education was elementary at best. That came to represent in excess of 60% of all public health work forces (Oliveira et al., 2002).

The Social Security Assistance Model of biologic and private inclinations was enforced from 1923 to the late 1980's and accounted for many problems, including embezzlement and a blatant negligence of the Brazilian government in concerning its citizens' health (Vieira, 2009). The creation of the Unified Health System (SUS) by the Constitution of 1988 legally forces the Brazilian State into assuming its true and necessary functions of watching over the people's health enter the SUS (Machado et al., 2011).

The facts showed curricular changes in nursing education in Brazil have historically been concerned with the adequacy of the nurse's formation to the interests of the labor market.

Research indicates that, in Brazil, there is a chronic lack of qualified technical professionals, which entails a risk for health care delivery to a majority of the population (Göttens et al., 2007). During many years, job offers for nursing technicians were restricted, leading to the use of a non-qualified workforce without specific training.

The requirement of the Health Politics and the constant demand for the professional has favored the opening of professional education schools for the formation of nursing technicians in Brazil. However, the number of nurses with pedagogical formation is not sufficient to fulfill these courses (Oliveira et al., 2002).

Data shows that in 1976 assistant nurse held 35.8% of health care jobs, while in 2010 it was down to 1.2%. This reduction is attributed to the Law of the practice of registered nurse (nr. 7,498/86) which excluded it from the regular roster (Göttens et al., 2007).

That law unleashed the opening of schools and special programs to cope with the demand of able professionals. In the 1980's only 250 schools used to offer Nurse Technician courses, against the present estimative of more than 1,400. Some of them have their quality questioned teachers without pedagogic training is amongst their problems.

The 1996 Law of Directives and Bases of National Education (LDB) mandated that all teachers should have a university qualification by 2006. The quality of teachers remains a major issue and a priority for the Government.

On the other hand, schools offering Major in Nursing are reduced, driving forward the need for distance education which, criticism notwithstanding has its approach strengthen by the experience (Molzahn et al., 2009).

The purpose of this study is to evaluate how many nurses have finished and there difficulties to do a Distance Education in the Specialization of Teachers.

Political Educational Project

The design of a curricular proposal for a Distance Education in the Specialization of Teachers in State of Sao Paulo, Brazil, started with a nucleus of educators (Psychologist, Sociologist and Nurses) experienced in the area of teaching formation and in distance education, according to the National Curricular Guidelines for Teacher Education and legislation pertaining to this profession.

Since 1972, the school offers regular pedagogical formation for some areas. In 2002 started the specialization's course for distance education.

The studied course was created in 2008 by entitled nurses and educators with administrative and educational experience in under-graduation, both on-site and distance — it is also called "distance learning, e-learning or online learning" (Liu, 2008) but we will be using "distance education" throughout this article.

The initial challenge in planning the course was having the non-nurses teachers understanding the historical, social, and political background that surrounds nursing and healthcare in Brazil. In the talk while building the Learning Policies Project (PPP in Portuguese) we identified a lopsided biologic view and unfamiliarity with the integrity principle in health care. Supported by a review of the theoretical references, the program was conceived toward improving quality in the PPP for the Nurse Technician Course. Many schools curricula are still made with a traditional approach in their educational praxis, henceforth showing little improvement since their advent, remaining removed from present healthcare policies and new technologies. There was a consensus in the team that we should instruct teaching nurses with a thoughtful, critic profile, fit for an educational praxis integrated to healthcare reality, considering directives of the Unified Health System.

The construction of interactivity in distance education is critical to the planning of virtual environment through the development of students' feasible abilities and skills for the teaching strategy of Course Political Educational Project combining with the current legislation needs of nursing profession. The development of education articulated by available tools in the virtual environment aims at promoting the critical-reflexive development of

the future nurse (Motta and Almeida, 2003).

They had elaborated a pedagogical material, the virtual environment and the actual process of evaluation for a course with a period of 660 hours of duration and 14 meetings on Saturdays.

The program was based in learning autonomy by means of available technologies and the social building blocks of knowledge. That way the course was formed by four thematic axis toward political, social, and historic thinking of knowledge in order to give the nurse the tools for their teaching practice, namely “Legal base for nursing instruction and teaching practice” (110 hours, 11 interactive units), “Scientific research methodology” (80 hours, 3 interactive units), “Educational psychology and educational sociology” (80 hours, 5 interactive units), “Teaching techniques” (90 hours, 9 interactive units). This makes for 360 hours of theory studies, scattered amongst interactivity, self-study, and 12 on-site meetings (50%, 34%, and 16%, respectively). A 300-hour internship at professional schools finishes off the 660-hour workload and presents the nurse with the opportunity for observing, participating and giving activities to Nurse Technician students, all the while coinciding with their theoretical activities. In relation to the materials used, textbooks were elaborated with a dialogical and epistemic focus, and also socio-historic, so that it would make sense to nursing and health care. Guidelines were offered to the teachers who created such texts, following regulatory technical standards. Later, editing teachers and specialists in web-design made slight changes in presentation and layout, maintaining a critical thinking approach. At course’s close, the results were checked using the following instruments: activities and tests in the four thematic axis and development and defense of a treatise.

Course dynamics and pedagogic challenges

The following activities was designated to the course coordination committee: course pedagogic planning and supervision, which imply the teachers selection and direct meetings schedule, tutoring and theses presentation, production and revision of the material made by teachers/content producers. The need for experienced teachers, competent in distance teaching and computers was an initial difficulty for the coordination, overcame through preparation for the platform utilization and its tutorship tools. The classes was divided by tutors, respecting a 50-student per tutor ratio, numbers that need to be studied using criteria that allows interaction with the learning process, good communication and monitoring possibilities. The 5.622/2005 Decree (Brazil, 2005) hints at several aspects to be observed in courses and programs, but doesn’t mention the tutor-student ratio. In general, the course parameters unviability must be considered, because it depends of the pedagogic model adopted.

Regarding the students who applied for the course, most of them sought meeting the pedagogic formation legal requirements, for those who was already experienced as middle school teachers. Others expected that the distance education course requirements were less demanding than the on-site course. Geographically distant students realized that distance course enabled the planning of his education, avoiding problems in work schedule or absence of family contact. The opportunity of widen works possibilities was also noticed by the newly graduated.

METHODS

Neither patients nor health service staffs were involved in the evaluation, so ethical review was not required. Participating institutions were assured that their identities would not be disclosed on any published papers.

The research was made in a private school in the state of Sao Paulo, Brazil, which offers under-graduation courses, including Bachelor’s in Nursing, in both regular and distance specialization courses in the teaching area. The sample selection included students enrolled in the Formation of Teachers in Technical Professional Nurse in the year of 2008, who graduated in December of 2010. They willing answered a questionnaire available on the institutional website.

A quantitative methodology was adopted. Data gathering was made at the stydied institution’s graduation chancery by means of students’ files and the communication system used by the distance education system which maintains a curse evaluation process about its technologic, pedagogic, and organizational resources. The survey looked back at the installation of the course and followed up on 120 students out of 540 enrolled, in 11 distinct teaching poles in 2009 in a school from the State of Sao Paulo, Brazil. Amongst the potential outlinings we opted for the pedagogic organization that featured the teaching–learning process line of thought by teachers and students. Data was entered on a spreadsheet and later analyzed, based on the theoretical referential consulted by the researchers.

RESULTS

A total of 120 students, from 22 to 52 years old, were included in the study. The characterization of the group by gender, age, current professional activity and current activity as a teacher is presented next (Table 1).

As for the profile of those surveyed, 91% are female

Table 1. Distribution of students according to gender, age, current professional activity and Current activity as a teacher. Ribeirão Preto, 2012.

Variables	n°	%	Statistics
1. Gender			
Male	11	9	
Female	109	91	
Total	120	100.0	
2. Age (years)			
22-30	8	7	Average: 28,84
31-40	28	23	Median: 27
After 40	84	70	Mode: 26
Total	120	100.0	Minimum: 22
			Maximum: 52
3. Current Professional activity			
Nurse	79	66	
Nursing Assistant	20	17	
Others	9	7	
Unemployed	12	10	
Total	120	100.0	
4. Current activity as a teacher			
Yes	47	39	
No	73	61	
Total	120	100.0	

and 9% are male; 80% ages between 22–30, 23% ages between 30–40, and 7% ages 40+; 10% are unemployed, 66% are nurses, 17% are nurse technicians (although holding a nurse degree), 7% have assorted jobs; 39% are teachers at nurse technician courses; 88% has concluded the course, 8% evaded and 4% failed because they didn't meet the graduation requirements, in other words, didn't complete the obligatory internship or presented the theses (Table 2).

In pertaining the distance education tools which moved the above discussions forward, 92% of students accessed forums to express their opinions and to share thoughts and ideas, while 8% only posted their course-suggested works, helped by their tutors. Proposed chats showed low adherence (around 3%). The majority reported that access was impossible in the suggested hours due to work shifts and family issues (Table 3).

Although approval rate was 32% in the evaluated distance curses, 70% are still giving preference for regular, on-site courses when nurse practice aspects are taken into consideration, that is, its welfare aspects which integrate the need of cognitive competence with nursing procedural skills. That is a different approach than the one reported by Wei and Chen (2006) with a not dissimilar web-based learning platform; in that Taiwan experiment, an on-line forum was only one of the tools used both by students and tutors. Instead, the "web-based Virtual Classroom of the Department of Computer Science and Information Engineering (CSIE) of the National Central University (NCU), Taiwan" where "[t]rough an e-book reading interface, students can easily summarize, annotate or enter queries in a text in which questions arise, where the context is anchored to a mobile forum." That solution is still a somewhat beyond both the capabilities and the scope of the Brazilian experience, as the numbers on this paragraph show.

With regard to the teacher–student interaction and the aspects that qualify the learning–teaching process, we evaluated the items presented on the Table 4.

At the end of the questionnaire, the students were invited to point out any personal obstacles they've found while in the course. We listed what most commonly came up on Table 5.

Of the surveyed students, 67% described initial difficulties to access the system and searched help by phone in the first 3 months of the course; 100% of the students didn't have previous experience with distance courses. Some reported buying their computers for this course and bringing their technological knowledge up-to-date that demanded by labour market. During assistance, the help desk follows through with the students, so that they could learn the communication system.

DISCUSSION

Expansion of distance undergraduate education expanded 285% in five years, going from 300 thousand students in 2004 to 856 thousand in 2009. The sector show encouraging potential although it is going through a moment of consolidation and improvement. A total of 41 distance undergraduate courses for nurses were found

Table 2. Distribution of students according to complete the course. Ribeirão Preto, 2012.

Variables	n°	%
1. Studentshaveconclued		
Yes	105	88
No	5	4
Evaded	10	8
Total	120	100.0

Table 3. Distribution of students according to adherence tools and the system. Ribeirão Preto, 2012.

Variables	n°	%
1. Tools		
Forum		
Yes	110	92
No	10	8
Total	120	100.0
Chat		
Yes	4	3
No	116	97
Total	120	100.0
Only Works		
Yes	10	8
No	110	92
Total	120	100.0
2. Approval		
Yes	39	32
No	81	68
Total	120	100.0
3. Preferences		
Distance Education	30	25
Regular	84	70
Have not chosen	6	5
Total	120	100.0

Table 4. Teacher–student interaction and the learning–teaching process. Ribeirão Preto, 2012.

Evaluated Item	Very Good	Good	Regular	Total
Presentation of the subject work proposal by the teacher (objectives and contents)				
Line%	65	37	18	120
	54	31	15	100.0
Knowledge of the subject matter by the teacher	61	41	13	120
Line%	51	38	11	100.0
Balance between theory and practice	46	54	20	120
Line%	38	45	17	100.0
Teacher's incentive to participation, debate, and expression of ideas in the forum	58	55	7	120
Line%	48	46	6	100.0
Support to activities performed	49	57	14	120
Line%	41	47	12	100.0

Table 4. continued

Consistency of evaluation methods to subject matter	42	53	25	120
Line%	35	44	21	100.0
In loco evaluation procedures	41	48	31	120
Line%	34	40	26	100.0
Answering of students' enquiries pertaining the subject matter	57	52	11	120
Line%	48	43	9	100.0
Expediency when answering students' enquiries	38	45	47	120
Line%	32	37	31	100.0
Teacher's engagement pertaining Distance Learning mobility	62	50	8	120
Line%	51	42	7	100.0

Table 5. Obstacles pointed out by the students while in the course. Ribeirão Preto, 2012.

Categories	Yes	No	Total
Understanding the workings of the platform (posting in the forums, opening documents, using the chats)	80	40	120
Line%	67	33	100.0
Writing the paper	74	46	120
Line%	62	38	100.0
Attending the trainee hours in the professional education schools	71	49	120
Line%	59	41	100.0
Programing their weekly self-study hours	66	54	120
Line%	55	45	100.0

by the State Department of Education and Culture in 2011: twenty-three in the Southeastern region, eleven in the Southern region, three in the Northern region, other three in the Midwestern region, and another in the Northeastern region (Rojo et al., 2011).

A distance course demands infrastructure proportional to its number of students, the technologic resources involved, and the breadth of territory to be reached. Headquarters — both of the institutions and the local support pole — must be comprised of library, computer lab with high-speed Internet access, offices, teaching labs (when necessary), and rooms tutoring classes and exams (Brazil, 2007).

Brazil is still learning to have distance learning. While its institutions organize themselves to offer distance courses, the federal government improves its regulation, supervision, and evaluation processes, especially in pertaining quality standards, such as: didactic–pedagogic processes, faculty and tutoring staff, and the actual facilities in the universities and its local support poles. That way, pedagogic projects must state clearly their choices in education, curriculum, instruction, and learning, as well as the profile of the student they want to build. It is also needed to submit the processes by which they should make teaching and learning aids, and communication and evaluation material, with the teaching–learning processes described (Lemgruber, 2009).

We observe that higher education institutions as well as the public and private sector should press ahead toward nurse professional insertion in the digital field, aiming at the interactive use of digital solutions, such as electronic medical records, as well as the development of on-line regular instruction and extension courses (Mota and Almeida, 2003). Nevertheless, digital inclusion requires facing the challenges of our time, which is much more complex than providing computer access to the Internet (Oliveira, 2007).

In that sense this study indicates that adaptation to the initial distance course project, sprouting from physical attendance, shows specific gaps, tied to integration difficulties between theory and practice, as can be observed on Table 1. Nowadays, the complexity of the educational praxis in nursing, originated from its own work experience, faces pedagogic dilemmas encompassing the classroom, the lab, and the practical field (this last one indissoluble from reality). The course in question arises as another option for the nurse who desires to teach. However, when we appeal to the interactivity that the Internet allows, we should ask ourselves if it really enables development of teaching skills specific to nursing. Could it be that the teacher who

learns distance teaching is, in fact, ready for on-site teaching, at labs and the other fields that nursing require?

The concerns that rise from this new form of learning certainly have consequences that require verification, research, and analysis.

Distance education should be tied to the use of technology that allows for interaction in the teaching–learning process and communication inside the system, aiming to guarantee opportunities for the development of shared projects (Santos and Marques, 2006). Our study, however, points out how feeble are the grasp of technology by nurses, as 100% of students who answered to our survey were doing a distance course for the first time.

Although technological advances in the country's daily life, Internet use for educational purposes still requires capacitation of teachers and students (Molzahn et al., 2009). Our research shows that nurses have problems dealing with the platform and being assertive when using the database for their studies. Difficulties pertaining search for information were evident in our study, something that limited the nurse when selecting information in trustworthy sources, especially when they had to research about a subject or write a paper.

Qualification of the faculty also requires credentialing at institutions interested in working with the distance model. Besides teachers — capable of establishing the theoretical fundamentals of the project, teaching aids, and also academic management of the teaching–learning process — institutions should rely on the figure of the tutors, both on-site and on-line — mediators of the pedagogic process (Barbosa and Rezende, 2006).

This study verified that students complain about delays in tutors' feedback, which shows that the ratio between tutors and students must be revised. It also shows interaction desire by the student, and the need of humanizing the tutor–student relation.

The numbers also reveal teachers' engagement is appreciated by the students, as well as their disposition when coaching them into the process. It is indispensable to develop an autonomous distance-learning student, something that is also expected when they become full-time workers. To teach them to be at the same time critic and reflexive, as contradictory as it may seem, is something propelled by distance learning due to the possibility of collective constructions allowed by the teaching tools.

Finally, time administration is another obstacle that we saw, which such a bottleneck for professional qualification is. The demands of the job and home are amongst the explanations that limit the access of the nurse to the on-site course. Weighing the inherent health hazards of the nurse practice, we see a correlation to the lifestyle of the majority of the population — sometimes making choices that sacrifice interpersonal relations and accelerate everyday life so to guarantee means of subsistence in the frame of capitalistic ideals.

Taking into consideration the obstacles and difficulties pointed out by the students, the data still shows that there is a preference by on-site courses. We infer that the experience and habits of the traditional school add to the essentially practical characteristics of the nurse training. Due to that, advances in distance learning have been seen with reserve.

Putting together in this research the challenges of distance education we have: the lack of requirements of a large part of the nurses in using the Internet and accessing the Distance Education platform, the working up a treatise, internship, and problems concerning permits required by middle-level schools and scheduling.

Considerations

With this experience we understand that the advances of distance teaching could and should be incorporated into the formation of nursing teachers. The enrollment of almost 700 students in its first year of activity, with 11 classes in 8 distinct teaching poles is evidence of its acceptance. Initial obstacles were identified, such as people not knowing how to use computers and other technologies, were turned into its major accomplishments. We conclude that the complexity of planning and administration of the distance courses implies a multidisciplinary network of able-bodied teachers and technicians, infrastructure and platform organization, and qualification of teachers and tutors, pedagogically committed. There's no room for improvisation: continual action and the sharing of that action is the way to go.

We accentuate the importance of widening of researches able to evaluate the results of these formation efforts in the fields of educational praxis, that is to say, applicability of teaching knowledge in the formation courses of the nurse technician.

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