Brazilian Research on Teacher Training and Technology Presented in ANPED 2010-2013

Vania Finholdt Angelo Leite¹ & Lenir Silva Abreu²

¹ Doctor studying on the Post-Graduation Program in Education, Pontifical Catholic University of Rio de Janeiro (PUC-Rio), professor on the Pedagogy Course at Rio de Janeiro State University (Uerj), Rio de Janeiro, RJ - Brazil, E-mail: vfaleite@uol.com.br

² Federal University of Bahia – UFBA - Postgraduate Program in Teaching Philosophy and History of Sciences. E-mail: lenirabreu@uol.com.br

Accepted 13th November, 2016

Abstract

Here we present a review of research published in congresses held by the National Association of Graduate Studies and Research in Education (ANPED) - Brazil. We selected articles from 2010 to 2013 by teaching work groups: Teacher Training, Education and Communication. We seek to answer the questions: How are trainers using ICTs in teacher education? What factors influence the integration of ICTs in the training context? 50% of research indicates that ICTs are used to exchange information, integration and thematic discussions between teachers and pupils during training, which characterizes formation in the network paradigm. 20% said that trainers use ICTs for the study and preparation/presentation of content, while students use them in an instrumental form. 20% show that ICTs are part of the curriculum proposals of institutions. However, these studies give us little indication of how ICTs are used in training. Finally, 10% of the research found that the incorporation of ICTs in teaching was made possible by the trainers’ experience with these devices and digital interfaces. This experience could facilitate the integration of ICTs in training settings.

Keywords: Teacher Education. Trainers New Information and Communication Technologies.

1.0 Introduction

Contemporary society is undergoing a cultural and social change because of rapid scientific and technical progress. In this context of high technology and increasing economic and cultural globalization, the socialization of new generations defies all spheres of society. The new ways to perceive, interact and learn developed by children and young people in their relationship with new and old technologies, are products of the society and culture in which we operate. The distinction between culture, society and technique can only be conceptual because they are interconnected. It is impossible to separate the man from his material environment as well as signs and images, which give meaning to life and to the world (Levy, 1999).

Education is also immersed in this culture, therefore, "it is impossible to conceive of an 'uncultured' learning experience, that is, where no specific cultural feature shapes it" (Candau, 2012, p.69). Schools urgently need to use Information and Communication Technologies (ICTs), linking them with school knowledge, providing dialogue between individuals and promoting dialogue and interaction between people. However, we emphasize that the simple use of one or other equipment does not require a teaching job that provides the inclusion of students and teachers in cyber culture. It is necessary that teachers know and / or teach using the mentioned links. For this to be possible, it is essential to invest in teacher training (Borko, 2004). One cannot teach what one does not know.

Schulman & Schulman (2004) emphasize that the professional development programs need to consider aspects related to macro issues, involving government policies and infrastructure included in the process, as well as micro issues, related to personal skills and practices in the classroom. ICTs are related to the macro issues, since they involve infrastructure and availability of resources, as well as personal and emotional aspects such as confidence and security in the use of such resources.

Does the initial and continued training of teachers and trainers permit those appropriations and / or discussions about Information Technology?

Previous revisions (Barreto et al, 2005; Andrade, 2007; Santos, 2009) point out that although ICTs are part of people's lives and school, they are not being used as a driving force in the teaching and learning process. In 2011, Marcondes; Leite & Leite (2011, P.341) conducted a review of articles by the Curriculum Working Group of the National Association of Graduate Studies and Research in Education (ANPED) - Brazil and found only two studies related to the use of ICTs.

From these surveys, we realized there is a need for further study of what has been produced regarding the relationship between ICTs, training of teachers in service and future teachers and trainers (university professors or teachers who work in continual training). In this article, we will analyze the results of the working group research (GT) didactics of years subsequent to the research mentioned above, plus GT and GT Teacher Training Education and Communication.
The choice of the ANPED database is due to the importance of this Brazilian association, which brings together Post-Graduate (stricto sensu) programs in education, teachers, students linked to these programs and other researchers in this field. Its goal is the development of science, education and culture, within the principles of democratic participation, freedom and social justice.

Hence, from this review we seek to answer the following questions: How are the trainers using ICTs in initial and continuing teacher education? What factors favour the integration of ICT in the training context?

2.0 Methodology

ANPED is composed of twenty-three thematic groups (Working Groups), which aim to socialize the work produced by researchers and intensify the debate on education interfaces. These groups meet annually at National Scientific Meetings to discuss and present research results. The scientific committee blindly arbitrates these works sent to the GTs. All papers approved by the Scientific Committee are available on the association’s website.

We opted for the GT04 (Teaching), GT08 (Teacher Education) and GT16 (Education and Communication), since these are the ones discussing issues related to the role of trainers in the process of formation and its relation to ICTs, media and distance education. Using these four expressions as a reference for reading the titles of the 210 articles presented in the three groups mentioned above for the period of 2010 to 2013.

In this first classification, we found 99 articles that used one of the explicit terms above in the title. Through further reading and analysis of the abstracts we identified 10 articles that discuss aspects related to the training of trainers in interaction with ICTs. From reading the full texts of these articles, we found that only 2 discussed the relationship between the trainers' role and the use of ICTs, 4 on initial education and 4 on continuing education considering the links between ICTs. The excluded items did not address the discussion in focus. No article in the GT04 (Teaching) was found. We did find 5 articles on GT08 (Teacher Education) and 5 articles on GT16 (Education and Communication) about the subject matter.

3.0 Data Presentation and Analysis

From the reading and analysis of 10 selected articles: a) initial training and ICTs; b) continuing education and ICTs; c) trainers and ICTs. We present in what follows a brief description of the objectives and conclusions of the articles, thus demonstrating the contribution of this research for the training of teachers and trainers. All research is qualitative, except Lopes & Fürkotter (2010), which is a mixed approach (quantitative and qualitative).

3.1 Categories: "Initial training and ICTs"

In this category, the articles were classified that discuss teacher's training in higher education (undergraduate or pedagogy) enabling them to work in basic education, spanning over the discussion on Information and Communication Technologies (ICT). We found four surveys, two documents analysis related to the curriculum of institutions, proposals of the World Bank and UNESCO (Lopes & Fürkotter, 2010; Lopes & Pereira, 2011) and the other two (Lara & Quartiero 2011; Gutzman & Pin, 2013) analyze how students and tutors use ICTs.

Lopes & Fürkotter (2010) investigated the teacher training for Basic Education, seeking to verify if the curriculum includes knowledge of (TDIC) and their pedagogical paradigms. They analyzed the curriculum and discipline-teaching program of 124 classroom degree courses (Physics, Mathematics, and Chemistry) in 3 São Paulo state universities. They found that the curriculum presents the TDIC as: teaching content, methodological approach and discussion topic. Only the mathematics course project has a proposal to integrate the use of TDIC with primary schools.

Research by Lopes & Pereira (2011) examined the proposal for training presented by the World Bank and UNESCO. They concluded that the documents propose the guiding principles based on autonomy and democracy. The researchers believe that these two words need to be better understood by whom they are uttered and to whom they serve, since there are interests that are hidden in the apparent neutrality of speech.

In these two studies, we detected a necessity to observe the lessons to see how teachers used the guidelines for the employment of these technologies in Primary schools. It is important to look at what the universities’ curricula propose; although we know there is a huge gap between the proposed curriculum and what actually happens on a daily basis of initial or continuing training. It is vital to listen to teachers, trainers and students to understand how we can maximize the use of ICTs, which are already present in the lives of all social actors.

Lara & Quartiero (2011) identified how students and teachers use ICTs in initial teacher education in the public universities of Santa Catarina. The survey was conducted in seven undergraduate courses, involving 85 students and 71 teachers. They found that the use of ICTs in a social context is more frequent and intense among students in leisure activities, social networks, games and news. Teachers use them in activities aimed at study and work. Academically, their use by students is still small and predominantly instrumental (typing work, internet research and creating slides). Among teachers they are used to prepare or present their classes. This denotes a restricted use and not as a pedagogical strategy.

This distinct way of using ICTs can be understood by the fact that there is a difference between generations of digital natives and digital immigrants (Bianchetti, 2012). For the author, the digital migrants face great difficulty adapting to the new technologies that go beyond simple resistance or lack of interest.

Gruitzmann & Pino (2013) investigated the relationship established between the tutor and students in an undergraduate course at the Open University of Brazil (UAB). There were 35 tutors participating, 7 men and 28 women, all with a full university course. They found that most tutors began teaching this course, showing little experience related to written communication. However,
tutors sought to guarantee a healthy relationship with students through quick answers to the student’s questions and taking care with their language.

Furthermore, they encouraged the students to build on their knowledge, commit to study with dedication and have the will to learn more. We emphasize that this study brings considerations about the importance of written communication in distance-learning courses because it is through this communication that we can establish a relationship between students and the study objects. Writing, like any other technological device (ECO 1996), should also be worked in the training process, since it is an essential technique to advance in the learning process and the appropriate use of ICTs.

3.2 Category: "Continuing Education and ICTs"

In this category, we have 4 studies that analyse continual training focusing on the appropriation of ICTs by teachers from different educational levels (primary, secondary and higher).

Lopes (2011) investigated the continual training and how participants in a community of practice envisaged their pedagogical work and its network based learning. Professionals were trained from different institutions of higher and basic education. From the analysis of 80 posts (163 comments), it became clear that training made room for reflection, research, exchanges, contextualizing practices and theories. However, the appropriation of ICTs for a contextualized non-linear education that values the exchange of experiences, culture, information and interaction has not been achieved.

Santos & Santos (2012) during nine meetings with teachers, investigated how they are using the media network via immersion in media and social internet networks (Facebook, Twitter, YouTube, Blogger and Moodle). They showed that the dynamics of these interactions in networks between teachers and students created teaching and learning networks, enabling significant learning experiences in different spaces and times of cyber culture. Educational networks wove in and out of cyberspace, schools and other multi referential spaces.

Although research by Lopes (2011) did not determine the appropriation of ICTs for a contextualized education, the results are linked to the results of Santos & Santos (2012) and are consistent with the results of a literature survey conducted by Abreu (2013) which points out the importance of teachers participating in a community to improve their learning process.

Silva (2013) examined computer integration in school education and its relationship to teacher education from the perspective of a research professor. Forty two teachers, from 1st to 5th grade, participated in six municipal schools in the state of São Paulo. The study showed that out of a total of (42), who had been trained in educational computer use, only 5 stated that the course was suitable for their learning network. The teachers say that training should reflect their practices and consider them as knowledge producers and responsible for the training process. These results point to the need of training courses to meet teachers’ needs instead of bringing readymade projects. These courses should enable teachers to put themselves in the place of learners (Abreu, 2013) and experience learning situations that their students will face. In other words, they need to have this opportunity to learn.

Santos & Silveira (2013) analyze the prospects for continuing education of teachers present in educators' blogs. The research shows that 31 blogs have the ability to promote the creation of relational networks around specific themes, showing how effective tools can be for teachers’ continual training. Despite the blogs presenting a compensatory training in the researchers' view, they show how self-management actions, on the part of teachers, do not isolate themselves with their questions, doubts and insecurities. Being able to count on support with pedagogical practice is essential (Borko, 2004), therefore we consider that blogs can be a space for reflection and mutual encouragement for teachers.

Therefore, it can be deduced from the research findings that the teachers’ participation in training induced considerations, exchange of experiences and information. However, the teachers still do not use ICTs in their teaching to enhance student learning. We need research that examines types of training that favors further teaching practice transformation.

3.3 Category: "Trainers and ICTs"

The two surveys of this category address the issue of active trainers in universities and ICTs. Barbiero (2013) analyzes the classroom and virtual teaching and the other, Vizentim & Pesce (2010), focuses on the dialogical aspect in teacher training.

Barbiero (2013) analyzed the impact of classroom teaching (Dp) and virtual teaching (Dv) experiences in the formation of the university teacher, identifying the possible interrelationships between teaching choreography presented in Dp and Dv from the narrated experiences. The survey found that teachers developed a global vision of the discipline of drawing from experience in Dv. This provided a new look on the web, with regard to the location and the availability of teaching materials in digital media, such as text, images, e-books. Experience with Dv helped them explore other digital Information and Communication Technologies (TDIC) in Dp. Regarding the creation of further educator knowledge, the study confirmed the existence and the reconstruction of emerging knowledge, as knowledge related to the educational possibilities of the web and the integration of TDIC in the teaching-learning process.

Vizentim & Pesce (2010) investigated the contribution of a dialogic approach to teacher training in a digital environment in one São Paulo Community University. They concluded that the didactic design of training, the resources used, the degree of involvement of university teachers in training and the proposed work of the trainer, enabled the teachers a cultural experience beyond the instrumental experience with digital interfaces.

They concluded that the incorporation of ICTs in teaching is not possible without the experience of university professors.
behind the device and digital interfaces The results of this research leads us to infer that when teachers / trainers, from the analogue generation, have the opportunity to learn how to use ICTs they probably feel more motivated to use them. Group work and the adoption of less hierarchical positions can be an alternative to reduce the gap between generations.

4.0 Final Considerations

How are trainers using ICTs in teacher education? What factors favor the integration of ICTs in the training context?

Taking up the questions that guided the review: two studies (20%) of the Lara & Quartiero (2011) and Silva (2013) point out that trainers use ICTs training for preparation and presentation of content and study. Students generally use them in instrumental forms (typing work, research on the internet and creating slides). This form of use is restricted and limited to an auxiliary feature of the teaching and learning process.

Another 5 studies (50%), Lopes (2011); Vizentin & Pesce (2010); Santos & Santos (2012); Grutzmann & Pino (2013); Santos & Silveira (2013) showed that ICTs are used for information exchange, integration and thematic discussions between trainer and students. This training is guided by the network paradigm in which knowledge is constructed in the interaction between the participants where each helps the other to develop at the same time. This form of learning was supported by Freire (1993, p.9), for whom "no one educates anyone, as nobody educates himself: men are educated in communion, mediated by the world." It is a formation in which you work with and not above teachers, where everyone can learn together.

The two surveys (20%) of Lopes & Fürkotter (2010) and Lopes & Pereira (2011) who analyzed documents related to the curriculum of institutions and the proposal of international organizations, give us little indication of how ICTs are being used in training.

Finally, the research by Barbiero (2013) points out that the strategy experience, on the part of the trainers, about the interaction between the participants where each helps the other to develop at the same time. This form of learning was supported by Freire (1993, p.9), for whom "no one educates anyone, as nobody educates himself: men are educated in communion, mediated by the world." It is a formation in which you work with and not above teachers, where everyone can learn together.

Therefore, it is necessary to explore research in this area and in training to work with and not above teachers (Loughran, 2007).As a result, we can find new training strategies that favor the use of ICTs in teaching practices of both trainers and students.

References

2. Barbiero, D. R. (2013). As coreografias didáticas entre o presencial e o virtual e a (re)construção de novos saberes da docência superior.36ª Reunião da ANPED, Goiânia,GO.


