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**Curricula, Technologies and
Innovations in the Contemporary
World**

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**Curricula, Technologies and Innovations
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Abstract

The present research is the result of actions undertaken by the Research Technology, Education, Media and Arts Program whose leader Professor Roseane Albuquerque Ribeiro coordinated the research that resulted in this scientific article. The research group is recognized by the National Council for Scientific and Technological Development in Brazil. The survey was conducted at the Undergraduate Pedagogy Department at the State University of Paraiba (UEPB) in Campina Grande, Paraiba, Brazil, the aim of which was to investigate the possibilities of using different contemporary technologies within different educational contexts. The group worked on thematic, theoretical and practical contents, instigating the student/teacher action based on the knowledge produced in the research conducted along everyday discussions and actions. The work's key outcome was the production by the research participants of a scientific paper recommending the themes and educational practices studied, discussed and experienced. The theoretical foundation that supported the research, as well as the subsequent discussions and practices, points out that the method of incorporating Information and Communication Technologies - ICT - on to various educational contexts has instigated different possible uses, providing new pedagogical practices, and revealing both context and meanings. We have demonstrated along this process different possible conceptions as well as the adoption of ICT to pedagogical actions along the different educational areas.

Keywords: résumés - technologies – innovations

Introduction

Contemporary education, characterized by the intensive use of telecommunications and technologies, has helped produce much faster information. Currently, the information, though not available to everyone, can be searched at any time via the current technological resources available. Information and communication can produce knowledge. However, we need to know what, how, for what and for whom such knowledge is produced.

Knowledge takes no geographical boundaries. These elements bring, therefore, new ways of thinking, acting, communicating and producing new knowledge.

One way of producing knowledge is through education. Education reflects on morals, ethics, values, and on the social culture upon which it operates. These aspects have an interdependent relationship and come whole; it cannot be described and understood in isolation but rather in its entirety, since it promotes implicit and explicit political and ideological welfare. Thus, education does away with social inequalities, or else helps society to understand such inequalities.

Education entails more than just the teaching-learning binomial. It is much more than that. It is a fact known that one can make individuals advance further towards their most valuable potentials, essentially by providing them with the required education. Knowing becomes meaningful only when the knowledge acquired is built up in solidarity with the other. This may render learning something new and valuable.

Whatever technology be used in different educational contexts and processes, if this technology bears no commitment to a social project aiming at the construction of collective knowledge, it is useless and has no effect on the learner. Consequently, the pedagogical action must comprise essentially higher goals.

This is only a trend of our educational project; one that will justify its essence. It is necessary, therefore, to reflect and decide collectively on how ICT can help define what interdisciplinary means it can offer; based as it is on the pedagogical project that points towards the development of an educational process.

Consequently, the computer has become the most helpful aid to teaching and learning, for it perceives technology as a learning promoting resource. Therefore, the use of technology does play a most determinant role in the hands of the teacher as it is a tool that can also encourage the acquisition of knowledge. Within the scope of this paradigm, it has not been discarded its usefulness along this process as a tool of collaboration, research, investigation – a tool that adds much to apprenticeship.

This new teacher does not have recipes on how to take their position; they seek to find the way things must be done by undoing and redoing constantly, always aiming at the construction of knowledge with the student; instigating questioning, challenging, arguing, criticizing, and applying self-criticism and innovation to their tasks, doing away with the old to bring in the new.

Such a conception requires from us educators an increasingly critical posture as to the use of ICT in an educational context. However, to merely use it, does not guarantee its usefulness as a tool capable of securing the necessary quality to the teaching and learning process. Its use, when properly applied to pedagogical concepts as a whole, defines its success.

Questions such as: why, what is it for, when, how, whom is it intended to, who will benefit most from its use must be answered. Moreover, all these questions concerning the use of ICT will be ours to answer. This will be done through our actions, our attitudes, our perspectives and our pedagogical views.

It is a fact well known that new technologies bring in with it certain ambiguities as to their proper use. This can be regarded as good or bad. In other words, it can contribute to the general welfare or it can do us bad. It remains a fact that humanity has always been confronted with dual dilemma of good and evil. Such concept permeates the entire evolution of human history, including technology. Thus, it will all depend on who you are and what you are using it for, what our purposes are. After all, it rests upon us the decision on how such technologies must be used. ICT is not to blame.

ICT may serve a number of different purposes in education, but we need to know what we need from it. Consequently, in our practices we find interrelated economic, political and ideological interests. These will reflect the goals towards which we should position ourselves.

Theoretical Foundation

According to Kenski (2007), technologies are nothing but artifacts constructed to see to the interests and needs of social groups in their historical contexts. Yet, the incorporation of technology has taken place in various segments of society, manifesting its different applications. This technological artifact lies on various levels of private and public education. It is, in most cases, overvalued in relation to the didactic and pedagogical appropriation towards which it can contribute.

ICT has also been considered the savior of society for its role in overcoming the existing educational difficulties. It imparts, as well, a meaning of modernity to education, just by being present, by being real. Nevertheless, we have many educational gaps to fill up. There are still teachers and students with no access to this tool to help them solve their pedagogical problems.

Basically, the main purpose of this technology is not intended for education, but for a number of other purposes, which is the result of funding from international organizations to reinforce an economic industrial policy aiming at capital accumulation.

These are government measures involving economic, political and ideological interests that will guide us towards the use of ICT and towards building hegemonic ideological concepts: the possibilities of meanings and motives do enunciate the prevalence of one interest over the other. The

foregoing may allow us to move the other senses intertwined in education policy for education.

In the dialectical process between the ideological discourse and its implementation, there comes a political-economic dimension underlying public policies in education along with the capitalist system that reorganizes its forms of production and consumption and calls for the introduction of ICT to develop its own expansion strategy to preserve its hegemony and direct education towards market interests. Within the context of ICT in education, we have highlighted one of its strategies concerning the financial interests of hegemonic groups in the use of technologies at the expense of possible actions regarding the processes of teaching and learning.

In this way, the technologies imbued in the discourse of education modernization, expressing, as it is, the ways of thinking and acting of groups within the sphere of power dispute, such technologies will consolidate institutionalized social practices that, by denying the various existing ways for which they are constructed, they will set a unique sense of action, forged within the principles of hegemonic model groups.

We need here to identify the possibilities for reframing the uses of ICT with a view to teaching practices in order to understand the importance of the pedagogical mediation in this process, regarding, at the same time, the teacher and the student as knowledge creators.

Considering the different ways of inserting ICT in to the contexts of practice, these give rise to a number of other possible uses. At the same time, the use of ICT embedded on to the subjects' social practices generates various meanings; meanings and values that circulate continuously.

Within such diversity, both space and perception are multiple. Our gaze rests upon time and space – their spatiality sometimes partial, sometimes incomplete, and filled with ambivalence at different context of practice.

Reality is nothing but what we do within it. It is ambivalent and dialectical because it is continuously woven. It is social because it is socially constructed. It cannot be captured because it is changeable and dynamic.

Within this continuous movement of the society in which the ICT is embedded, one contemplates a real social process which expresses political, economic, cultural and ideological agreements; though these may be seen as temporary constructions. The understanding and recognition of multiple and different meanings as well as the contradictions and complexities involved; these, however, promote less alienation and more awareness where the constitutive subject is concerned.

Within such complexity, social life is organized and subject oriented. Reality is continually modified as well as the hegemonic power. This process reveals mutability within historical interests. These are expressed along ideological lines that rest between the hegemonic-economic powers and the productive system.

Despite the underlying motivations concerning the use of ICT in education, it will be possible to reframe and re-contextualize the educator's actions into contexts of practice (Ball, 2005), which goes beyond government

interests, favoring the construction of knowledge and creating conceptions of education, work and social relationships. The processes of teaching and learning will enable other practices along many contexts, using and capturing ICT. A continuous learning activity is required, to work and to live amid a multitude of educational processes that exhibit all common cultural differences.

Alves and Oliveira (2002, p. 99) support the claim that educators can position themselves and use their authority in the classroom "[...] both to defend values and established norms as well as to break values and traditional proposals [...]." This process instigates learning in these complex networks, where both dynamic and plural subjectivities in multiple spaces and times are considered for the different possible actions that individuals can produce from different uses of ICT.

Having said that, it is important to give credit to those who make the tessitura of these networks with which they aim to promote education. Once "[...], the quality and applicability of the presented information, as well as the social function of these resources will depend fundamentally on the use that may be made of them and the objectives to be established for such use. [...]" (NEVES and DUARTE, 2008, p. 782).

We must at the present stage observe this process, understand it, question it analyze it and dare to criticize it. It is by acknowledging the differences and dealing with them that, in our everyday life, we produce different meanings with the framework of the same social structure. We should enter vigorously the power space in order to appreciate the tricks produced by such designs on existing contradictory movements within relations of domination. Under this assumption, there may also be multiple meanings from the spaces suitably transformed via practice.

The potentials of many different discourses and practices on teaching and learning are not utopian; on the contrary, they are both challenging and feasible. To achieve this level of accuracy, different relationships with the required knowledge, with society and with the individuals who have created must be accomplished. For such one must count with the driving direction of a teacher, who is a key element essential to promote the necessary change in educational practices, going up to the social sphere. The teacher can achieve this through his/her implicit conception of education and pedagogical approach.

Advancing further on these lines, one may conceive a political-ideological conception explicit in his/her actions. This process of social change happens in our daily life when we come to consider the multiple identities and subjectivities of individuals within their context of power.

From this configuration duly sketched, we come to understand the political, ideological and pedagogical importance of integrating ICT into education. This will allow us multiple logics and meanings, different perceptions of individual actions and the teaching-learning relation. It is within this perspective that one makes it possible the implementation of discourses capable of adding up new meaning to the networks of knowledge, its doings, its powers and practices.

The key factor here is our positioning action face everything around us, including the use of technologies; for the less we observed, the less we read in between the lines, the less we come to know – because we do not know another reality other than our own to make it true. However, there are other realities, other sides to everything. Those who can discern these realities, will be better guided and will, as a result, help other to successfully conduct their lives (RIBEIRO, 2001).

To think and act this way "[...] implies considering one's constitution beyond the upright gestures from top to bottom, marked by the central power of governments, and from the bottom up, establishing in practice one's field of production. [...]" (PAIVA; FRANGELLA; DIAS, 2006, p. 244, 245).

One possibility of meaning and context is to consider the pedagogical use of ICT as a possible contribution to the teaching/learning process, enabling educators to access technologies early on during their initial training, making these educators the most important elements along this process, for they can take possession of these technologies and incorporate them on to their everyday work.

Thus, considering the existence of multilateral funding agencies, the materialization of educational policies depends on the pedagogical mediations of educators along the plurality of existing practices, because "[...] everyday life is not only a place where one repeats and reproduces 'social structures' [...]" (OLIVEIRA, 2008, p. 53); it depends on one's purposes are and on how one uses them.

Methodology

Following a theoretical, methodological and ideological understanding of what educators do, we dare share an action accomplished during the Undergraduate Course on Education at the State University of Paraíba - UEPB, whose primary focus was on an Extension Education Project and Technologies. This project was coordinated and executed by us as a result of such initiative.

By sharing the results achieved along the execution of this project, we have established the educational actions taken with the use of ICT. We were able then to take into account other professionals with their differences, their potentialities, their different educational concepts and practices on relationships, interactions and knowledge networks in order to improve the various spaces we have experienced.

These differences make us understand, perceive and see the efforts of our fellow workers as unique, as important as our own endeavors. These differences may be seen as true educational processes, for living involves a continuous educational process.

The extension project called Education and Technologies is the resulting action of Technologies, Education, Media Arts Program, which is accredited by the National Council for Scientific and Technological Development-CNPq. The present study was conducted on two different occasions. On the first

occasion, it was conducted with the participation of UEPB undergraduate students. On the second occasion, teachers of a public school were involved in a number of activities. The objective of this project was to understand the possibilities of using different contemporary technologies for various educational purposes.

The thematic content of the project involved efforts on theoretical foundations and other theoretical and practical issues, instigating, as it is, the student/teacher relationship based on the knowledge produced during the research conducted along the discussions and on everyday actions.

For all encounters, records were taken for further evaluation. Participants were also asked to work out their own comments. The records revealed all individuals' processes of knowledge construction, as well as everyone's unique and differentiated approaches – all drawn from each stage of the project according to the participants' needs and interests. This network of constructed knowledge was critical to analyses and group discussions.

Videos, movies, educational software, texts by various authors and internet searches were some of the media employed. We have also analyzed the strengths and limitations concerning the use of e-mail communication, interaction and learning. We have considered the usefulness of both synchronous and asynchronous tools to the process as a whole.

Results

The most important outcome of the project was that of producing an individual scientific article based on the material studied, discussed and experienced along our practices.

The diversity of the actions that were taken led to practical activities developed by the participants. These were most relevant to start questioning, analyzing and interpreting the various possibilities made possible by these resources. This will certainly enrich the teaching/learning process, thanks to the teacher's exceptional contribution.

On this network of knowledge woven by every individual in accordance to their own time, we experience the individual and the group within their collective participation; always, collectively shared, which makes a big difference. As a result, a difference is observed in the formation of these subjects, for it is through the use that everyday life is defined as knowledge and meanings.

The road tread does reflect a process that takes plurality as a parameter. We value the subject, recognizing its relevance as an agent, because as the structures are reproduced, they may also be processed and re-contextualized.

Hence, there appears to be no single truth. There are pluralities of readings, perceptions, realities, all of them created by different subjects. By learning the differences and dealing with them, we will come to understand how our practices produce different results based on the same social structure. Thus, a possible trial may lead to a process of understanding the theoretical and

practical efforts in order to elicit possible and even surprising ways rendered by interacting subjects. Besides, by trying to understand what subjects express, do and show in their tricks and stubbornness, we give voice to their educational claims mediated by ICT at a micro level. Moreover, at a macro level, one should consider political and ideological issues duly intrinsic to these.

Final Conclusions

Everyday innovations constitute educational practices that need to be highlighted and fully recommended. Such plurality of meanings and actions call for shifts that can make a difference in the end; or rather, the displacements can work out the difference along established rules.

We are enabling ourselves, as researchers, scholars, students, apprentices to develop different views, different sensibilities, different interpretations, and different meanings. These will certainly lead towards the construction of essential political and ideological processes.

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