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The Stress Generated by the Introduction of NICT in the Educational Environment

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Abstract

New Information and Communication Technologies (NICT) are considered valuable tools for the educational environment, but there are very few studies that analyze the effects of the stress caused by the use of NICT on teachers. This research examines the stress generated by the use of NICT by teachers in the instructive-educational process. At the same time, stressors are identified as a result of the implementation and use of new technologies. Synthesizing the results of the scientific approach, the use of technologies increases the stress of the teachers. The purpose of this research is to evaluate the extent to which the stress generated by NICT affects teachers and didactic activity. In other words, it is to be seen whether NICT attenuates or amplifies the stress of teachers and their impact on the instructive-educational process. As the educational environment tries to adapt to the information society, it is important for teachers to continually improve on the use of NICT, even if there may be factors that prevent effective use of the technology itself. Therefore, this research analyzes the relationship between stress and NICT used in the educational environment.

Keywords: *educational environment; NICT; stress; students; teachers.*

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1. Introduction

According to the literature, the teacher is the one who helps students become successful students. Thus, technology is considered only a means by which teachers improve the effectiveness of their training. It is the teacher who contributes to the effective use of a NICT in didactic activity. Often, the responsibility for implementing NICT in the educational process can become another variable that changes the level of stress of the professional teacher. Therefore, for some teachers, new technologies are a tool that helps to make work more efficient, but for others technology is still a contributing factor to stress, also called technostres [1]. The term "technostress" is defined as the modern adaptation disease that is caused by the inability to cope with new information technologies. Over time, the term has a negative impact on attitudes, behaviors, thoughts or body psychology determined directly or indirectly by technology [1]. In our view, the term technostress occurs in the educational environment when teachers cannot cope with technological errors (for example, networks and software), labor demands are increased, or fail to make effective use of technology in teaching.

2. Theoretical Background

The results of specialized studies on stress generated by NICT reflects the existence of four main sources that have led to increased levels of stress. The first source of stress is related to the period of preparation, explanation or installation of NICT, the reluctance to use them. The second source of stress concerns the reliability, real quality of NICT devices and equipment. A third preoccupation of technology teachers is the lack of technical support required for the use of NICT in teaching. Finally, teachers have realized that the need to use new technologies causes changes in the curriculum. Therefore, "inadequate training, insufficient human and physical resources and resilience to change are critical factors that have created disillusionments about the prospects of using technology among many teachers" [2]. Thus, a significant part of the teachers think they need a period of training in the field of technology before they can effectively integrate them into the didactic activity. Studies show that "with the acquisition of digital competences, teachers' anxiety diminishes, and attitudes towards NICT use are improved especially through participation in training and development of NICT use skills" [3].

The resources used in the educational-educational process influence the dynamics of the relationship between the teacher and the student. NICT can

be considered an inhibitor or contributor to teacher-student interaction. The basic technology used in didactic activity is the computer, being extremely useful because it stimulates complex processes and phenomena that no other didactic means can put them so well. Thus, through it, students are offered modeling, justifications and illustrations of abstract concepts, illustrations of processes and phenomena unobservable or difficult to observe for various reasons. It allows the realization of experiments that can not be done practically due to lack of didactic material, inappropriate endowment of the laboratories or the danger to which the students and the teacher were exposed. Students have the ability to easily modify the conditions in which the virtual experiment takes place, repeat it for a sufficient number of times so that it can track the way the phenomena are being studied, can draw the conclusions themselves, lay down laws.

The computer is also used to develop communication capabilities, to collect, select, synthesize and present information, and to write reports. Thus, students develop the ability to critically assess the accuracy and correctness of information obtained from various sources.

3. Argument of the paper

Modern techniques and education centered on the needs, desires and possibilities of the student require the development of differentiated activities on level groups. Thus, by providing electronic materials, the teacher believes that the student can go through the resources received at his own pace and no longer has to hold huge amounts of information. The teacher wants the student in this way to think logically and locate the information he / she needs.

Developing materials by the teacher on modules with varying degrees of difficulty allows the student to know exactly at what level he / she is located, to recognize his / her limits and possibilities. This is how self-awareness and desire to succeed develop. He will study, motivate and become a self-instructing being.

It can be said that by using the Internet and modern technologies the teacher can create the most complex form of integration of informal education in formal education but if it is not used efficiently it can lead to technostres.

4. Arguments to support the thesis

Although the benefits of using NICT in education are numerous, the teacher does not have to turn the student into a "robot" who only knows how to use the computer. He / she must realize when it is possible to use NICT in real experiments, because he develops the students' observation, concentration, patience, attention, practical skills.

Also, education is not only achieved through intellectual development. Equally important is the need for lifelong learning, everything that generates interest and knowledge. So there is no question of replacing the teacher with the computer. It should only be used to optimize the instructional-educational process at certain stages. Because the educational software can not answer all the unexpected questions of the students, the teacher will always have the most important role in education.

5. Arguments to argue the thesis

Therefore, NICT should not only be a tool to present existing content in another way, it must lead to a change in the way of thinking and classroom style of teachers, crystallized in centuries of traditional education, too concerned with personality and the student's possibilities.

NICT instruments have been associated with positive impacts in the educational process, even if studies show that stress is found significantly. However, teachers who "have successfully learned to use a variety of technological tools need additional support to make them applicable in the educational process" [4].

6. Dismantling the arguments against

Teachers must be flexible in using NICT in the learning environment. According to specialty studies, there are two factors that can cause a teacher to "feel empowered to integrate NICT in line with the design of investigations and learning environments" [2]. The first factor is the educational design specific to each teacher, and the second factor is his ability to adopt his learning principles. In most cases, teachers are of the opinion that the activities they carry out are technologically demanding. Secondly, they feel they do not get enough technical support. As teachers demonstrate technology integration efforts, "teachers need to consider how technology can be used effectively, balancing a variety of factors, including curriculum, software, resources, time, and student learning" [2]. A teacher

may experience the feeling of stress when he is "discrepancy between his characteristics and the characteristics of the technological environment in which he works" [5]. „The research supports the idea that teachers need three basic things to feel confident and reduce the stress generated by NICT" [2]. "Teachers need awareness, autonomy and trust to create a significant influence on the technology-driven learning environment" [4]. "It is especially important to note that the mere presence of a rich environment in NICT is not enough to make the educational process more efficient. Thus, teachers need to be able to demonstrate a pedagogical awareness of NICT, the positive impact they can have on the success of students' learning and processing skills". [6]

7. Conclusions

The initial enthusiasm of users of new educational technologies - teachers and students alike - is often counterbalanced by a strong sense of disappointment even during or after the learning process. Many times, new technologies offer nothing more than a simple digitization of content without substantial added value. To succeed, learning with new technologies must facilitate the creation of new learning models based on the idea of learning communities that involve more than the acquisition of competence: emotional involvement of the learner in the learning process, thus transforming the experience educational experience in a passionate experience and the desire to repeat it.

Teachers have long been concerned about the stress induced by NICT implementation in the educational process. „As teachers continue to develop professionally, they need to adapt to the ever changing technology from a technological point of view" [2]. Currently, teachers face many challenges regarding the continued development of NICT [6]. However, it should not look at NICT as a stress-generating tool, but as a means of learning, even if its use will always require support, depending on its own knowledge and motivation, in acquiring the skills of using the technology [2].

In adopting a new educational technology, the teacher imposes his individuality in multiple ways and, in particular, by the way his own specialty / discipline influences the way in which he teaches and reacts to the implementation of new technology. In the process of implementing a professional development strategy, it should not be forgotten that, depending on their attitude towards the adoption of new educational technology, the reactions and signals transmitted by members of each of these professional categories are different: those teachers belonging to the

very restricted group of the innovators (estimated at less than 3% of the total) are extremely eager to test any new educational product, being enthusiastic again and primarily interested in the technical performance of the product (approach to product-oriented testing). Instead, early acceptances act differently, being relatively relieved by the strong enthusiasm of the innovators. They are not just exploring the performance of a new technology but wanting to experience, to see how and how innovation can help them in the teaching process. Teachers belonging to this category are the ones who act as opinion leaders, discussing the results of these personal experiences in the professional community; they are the ones who can lead their colleagues more cautiously on already trailed paths, indicating those strategies that could smooth out their way of adopting new technology. This process is extremely important for the development of an early majority. This is the larger group of teachers (with about 34% of the target population) in expectancy, but who will not expect much for the adoption of the new technology (and in any case not with the adversity of any group risk much skepticism that forms the late majority).

In conclusion, the New Information and Communication Technologies (NICT) presents significant potential for stimulating innovation and changing current education and training systems but, in general terms, technological progress is much faster than the pace of change in education and training, which may causes stress.

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