Being a Teacher in a Digital Era

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Abstract
The present study focuses on a few of the teacher's responsibilities as an actor involved in the process of the personality development in the context of a digital world. A teacher's professional profile, that allows putting in a genuine correspondence the learning environment with the needs of 'digital natives', keeping at the same time a fair balance between the requirements of society and the perspectives of the personal development, is the one that can sustain a successful fulfilment of the teacher's mission in the contemporary society. Building a new teacher's profile based on: the resignification of the learning process, the new way of understanding the knowledge functioning and structure and the reflection upon the requirements of extended learning environments is not the responsibility of the educational systems only, but it requires also a social recognition and support in order to better address to the changes of global civilization.

1. Introduction

Market - economy, knowledge – society and globalization are a few keywords that capture the complexity of today's society and build the architecture of the contemporary processes developed in the economic, social, cultural and political sectors. Information plays a special role in connecting the forces that configure the political - economic and socio - cultural changes. The literature proposes the concept of a global information culture, that has the power to transform the actions and discourses and to build new understandings for events and behaviors concerning human values (Eşi, 2010, 140-146). Human evolution is influenced in its way of communicating and satisfying its own needs and the available resources are significantly expanded at different levels of accessing, sharing and storing the information.

With the information becoming a significant part of the contemporary society and having implications in all sectors, the problem of its transmission seems to be an essential one. This is where the technology comes into play. It is hard to appreciate separately the technology evolution and the information expansion because their relationship is one of interdependence. The

informational capital can be added to the human capital and the financial capital, The information flow (in terms of speed, accuracy, volume, real time response, low costs and extended availability) in an electronical, digitized form, raised at a global scale, with huge implications on the development of all social sectors is considered to characterize a digital era.

The educational system faces the challenges generated by the digital era at a micro level but the given answers are important for a genuine use of the digital context and of the communication technology into the process of personality development, not in a compelling manner but in an integrated way, redefining content and methodology in the light of a restated educational mission based on the requirements of a knowledge society.

The process of training teachers also requires a reorganization determined by the new coordinates of the knowledge structuring in a digital world. Different types of competencies are being needed for fulfilling the teacher's profile in a digital era in order to provide educational services according to the needs of individuals and society.

2. The internalization of knowledge in a digital world

What is the significance of knowledge in the 21st century? It is for sure related to the changes in all the social sectors and it has to assure a fluency of the development and the integration of the new learners in the contexts constructed by the new type of processing information mediated by technology.

M. Prensky (2001) talks about a discontinuity that has taken place in the process of human evolution: today's students represent the first generation to grow up surrounded by technology and that determines their different way of thinking and information processing. The author considers that it is not about a physical change of brain, but it's about using different thinking patterns, making difference between this generation of students considered to be *digital natives*, and the previous generations considered to be digital immigrants. This different thinking patterns require different learning needs.

There are two important factors that determine the new needs of today's students considers A. Black (2010): the existence of a different cultural background of the learners and a plural structuring of the classroom; the students belonging to a *digital native* generation (they are familiar with technology tools and they act in a *multitasking* way being always interconnected).

In order to identify the essential elements of knowledge that can sustain the success of a person in the 21st century, K. Kereluik at al. (2013) analysed 15 different studies and delineated the three main categories of knowledge: Foundational (expressed using the verb *to know,* including as components: digital & information literacy, Core content knowledge and cross - disciplinary knowledge), Humanistic (expressed using the verb *to value,* including as components: life/job skills, ethical/emotional awareness, cultural competence) and Meta knowledge (expressed using the verb *to act*, including as components: creativity & innovation, problem solving & critical thinking, communication & collaboration). We observe that this framework places digital knowledge in the

foundational component and the authors define it beyond digital skills used in a technology world. It also includes an ethical component, related to a responsible use of technology and it is also about a genuine use and construct of information in a 'thoughtful' manner.

Digital learners can be described in a few keywords, as it results from a literature analysis done by A. Black (2010): being in constant need of stimulation and competition, having exceptional visual skills, being interactive learners, experimental seekers, nonlinear learners (jumping from one type of resource to another), active participants. The new methods of instruction have to consider the specific traits of learners' behavior generated by their belonging to the digital era. Siemens (2014) points out the following today's learner characteristics: with a flexibility of accessing different learning fields during a lifelong learning process (school no longer comprises the majority of a persons' learning), building his way of thinking under the influence of the tools used in the learning process.

Dealing with knowledge in a digital form means not only expanding the acquisition sources but it also puts the problem of a deeper processing, interpretation and critical approach of the received information. K. Kimbler et al. (2002) plead for the inclusion of the computer – mediated learning in the classroom strategies used by teachers, but this methodological change has to follow the reformulation of the educational goals. This requires, in the authors' opinion new roles for teaching and new roles for students as self - directed learners, able to cooperate, having the capacity to think deeper, to become active and critical users of new technologies.

The process of human learning may occur in different contexts which can stimulate the process itself by its resources, the structure of knowledge and the offered perspective of learning. The learning environment is not only about physical places but it involves different kind of settings that stimulate learning. It is important to be aware that the knowledge internalization is related to the stimuli coming from the learning environment. In order to obtain the desired results in terms of learning we have to be preoccupied with the environment structuring as to activate the learners' potential and to achieve the established goals. G. Siemens (2014) considers that all the broad learning theories: behaviorism, cognitivism and constructivism were interested in the creation of the proper learning contexts. Contemporary mechanisms that govern life, communication and learning, intermediated by technology, changed the relation between the learning process and the learning contexts. According to Siemens' (2014) opinion, learning should be viewed in relation to an extended social environment and it must equip learners with the abilities to react adequately to the flexibility of life events. For that reason the author proposes a new learning theory that emphasizes on the role of networks in today's society and on the importance of links between ideas, facts and information.

This new theory is called *connectivism* and it enables the learners to build connections between the specialized sets of information and consider the connection itself as an important part that pays a major role in raising our state of knowing, in building knowledge in the digital era. G. Siemens sustains that the theory of connectivism relies on several principles: the diversity of opinions is important in learning and in the knowledge structuring; learning means connecting information sources, the capacity to know surpasses the gained knowledge; continuous learning means a

permanent nurturing and updating connections; decision making is considered a learning process - due to connections that can be validated or altered after a decision cycle. The author emphasizes on the fact that connectivism explains not only the knowledge's structure but also reflects a few mechanisms responsible for the management of knowledge.

Learning in a postmodern, digital age becomes problematic, affirm M. Weigel et al. (2009), because of the perspective of knowledge that it is not universally shared, based on the fact that the truth is considered to be 'a fluid entity' (the authors emphasize on the specificity of postmodern era that heighten the existence of the parallel truths, asserted differently by various individuals).

Being aware of the specificity of the new learning environments and of the different needs of the 'digital natives' and the 'digital immigrants' students, how can teachers achieve educational goals and put in correspondence the personal evolution with the professional development perspective? An analysis of the teacher's responsibilities of integrating technology in different learning contexts can provide us a few coordinates of the teacher's strategies used in the process of facing contemporary challenges.

3. The teacher's responsibilities regarding the integration of technology in different learning contexts

The learning in formal contexts is a consequence of the interaction between the teacher and the learner. In the digital era this interaction is often mediated by the information and the communications technology. The result is the change of the learning environment and the different learning outcomes. The teacher-student interaction in a face-to- face form doesn't only represent a way of knowledge transfer but it stimulates the student's learning on the following dimensions, according to T.D. Anderson and D.R. Garrison (1998): understanding, sustaining critical reflection, building content appropriate approaches, dealing successfully with misconceptions. When the technology is added in this equation, it requires the learners' competencies development for an appropriate use of this technology. The educational settings have to provide also different types of interaction for the enrichment of the learning experiences. The above mentioned authors sustain that the learner-learner interaction is crucial for the learning outcomes and it is important to value the variety of interaction possibilities offered by a virtual community of learners in the perspective of a technology mediated learning. This type of communities support collaborative learning, the learners are active participants and the technology makes possible the 'synchronous' or 'asynchronous' involvement in the task solving providing sufficient time for reflection and decision-making (T.D. Anderson and D.R. Garrison, 1998) related to a certain instructional situation. Authors discuss also the meaning of another interaction type with significant influence on the learning outcomes: the teacher-teacher interaction, the learner - content interaction, the teacher - content interaction and also the content - content interaction (a programmed on-line content responsible with updating a given content and alerting both the teacher and the learner if any changes occur). The teacher should offer the learner the experience of various interactions alternatives in order to value at the maximum the potential of the learning environment putting in a fair balance the outcomes of the individual learning and the results of the collaborative learning.

We assist at a change of perspective regarding the teacher's roles: if the traditional classroom offers teachers an instructional role, the insertion of technology in the classroom shifts focus on the guiding role of a teacher. (N. Law, 2008)

The teachers' mission shifts therefore from transferring knowledge to the development of competencies that will help students manage their learning, fulfil their learning needs, determine the relevance of the information for their own learning needs, transfer the acquired knowledge, skills and attitudes in larger or in different contexts, adapt the acquisitions to the new requirements of the real life situations, an educational model (Eşi, 2010, 41-50)

The challenges faced by teachers come also from a different shaping of the learning environment in a perspective considered by Hill and Hannafin (2001) to be a *resource -based learning environment*, which significantly differ from the conventional learning approaches by its expanded information repositories and by its complex structure, including as components: resources (core information, presented in a static or in a dynamic form), contexts (specific settings of learning in terms of situations and goals), tools (which help locate, process and communicate information) and scaffolds (divided by authors in four types: conceptual, metacognitive, procedural and strategic). The educational goals have to be stated in correspondence with the new structuring of the learning environment.

The technology is not only an instrument in the process of gaining knowledge, it is also related to the skills and behaviors of learners transferred in mobile contexts of learning and extended to an indefinite term of a life span, mastering technologies in relation with personal evolution is a key to succeed in the contemporary world: "In a postmodern, globally interconnected, digital world, individuals will likely be required to master new technologies and related behaviors throughout a lifetime to successfully learn, synthesize, and adjust to rapidly shifting requirements of the workplace and the culture." (M. Weigel et all. 2009)

P. Mishra and Koehler (2006) sustain that the relationship between technology and teaching can transform the teaching training programme and even the teachers' professional development. The authors discuss the concept of pedagogical knowledge, viewed by Shulman in 1986 (apud P. Mishra and Koehler, 2006) independently from the content knowledge (subject-matter knowledge), the connecting area between the two of them being the pedagogical knowledge and content (representing the ways for formulating knowledge in a more accessible way). They add to the previously proposed concepts the notion of technology knowledge that, in their opinion, completes the model of teaching by putting in connection content and pedagogy in a framework that is in correspondence with the challenges of today's learning contexts. Through information and communication technology (ICT) teachers can address better to the needs of students fostering their autonomy in learning and stimulating their self-efficacy and, at the same time, teachers can use ICT as an instrument for their personal learning. Networking learners of different ages, putting in correspondence different educational institutions and linking experts together are a few dimensions for activating the potential of ICT (P. Kirschner and M. Selinger, 2003).

The educational system and the society at large are responsible for developing the teacher training programmes in order to equip future teachers with the necessary skills and knowledge to increase the chances for a quality education. Not only the formal context of preparing teachers is of great interest for theoreticians and practitioners but also the identification of principles that guide the process of the teachers' learning. In this regard N. Law (2008) synthesizes, based on a literature review, a few conditions for an efficient teacher learning: focus on the deep learning engaging all cognitive mechanisms, experience different teaching styles (even those they never experienced by themselves as students), engage in a permanent optimization of their preparation level, willing to engage in teamwork projects, developing partnerships with community actors, being able to assume risks. The author points out that it is important for a teacher to develop metacognitive abilities in order to monitor and to improve their professional learning. Beyond cognitive and metacognitive knowledge and skills, N. Law sustains that the socio-emotional competencies are very important in order to provide energy for making things happen.

It is very important for us to be aware of the two hypostasis of the ICT (information
and communications technologies) presence in the instructional situations delineated by P. Kirschner and M. Selinger (2003) based on a literature review: the *core* technology (used for organizing the components of the learning experience, as a main part of the planning activities) and the *complementary* technology (representing the functional aspects of technology, viewed as an instrumental part of the learning). This distinction helps authors to identify the two perspectives of learning developed on technology's coordinates, that are the points of a great interest in teacher training: learning '*how'* to use ICT and learning '*via'* ICT. As to the components activated by the two hypostasis presented above, P. Kirschner and M. Selinger (2003) mention: the content focus in the perspective of the ICT use in the educational contexts (a component that has to be integrated into the teacher training programmes) and the participation in the learning experiences (provided through technology) - corresponding to the core technology hypostasis. On the other hand, integrating technology in the methodology and the use of technology in order to support some particular components related to the participation in the context of the learning experiences represent the sequences of a complementary technology perspective. The persons responsible for the structuring of the teacher training programmes have to integrate the formation goals related to both hypostasis mentioned above, in order to develop teacher competencies that will allow them to deal with technology in different educational settings and that will support the use of ICT for own professional development.

4. Conclusions

The teachers need to be aware of the multiple changes in the architecture of contemporaneity that generate the need for new understandings and for the redefining of the teachers' competencies in order to sustain the students' knowledge internalization and the mastering of information and communication technologies for a successful personal and professional life.

The expansion of technology in all social sectors transforms entirely the human knowledge structure: an informational flow which takes its energy from different types of resources, globally interconnected, forming networks or sometimes developing independently its own meaning. An

effective teacher has to develop his professional profile beyond the traditional instructional role embracing the hypostasis of a guide that shares resources and offers a variety of learning experiences in the classroom and in the context of a virtual learning community.

A teacher in the digital era should be concerned for the integration of ICT in the learning experiences offered to students and also focus on the structuring of the learning settings on the technology's coordinates, as a main component of an instructional situation, beyond its instrumental function. A cultivated interdependence between the learner's needs, the technology potential, the desire to accomplish the established educational goals and the society's expectancies regarding the learners' competencies should guide the teacher's actions in order to build the resourceful environments that will raise the quality of education.

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