The Demonstration Effect within the Realm of Creative Chaos

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Abstract
This research proposes to investigate the called demonstration effect as the more efficient method to overcoming professors resistance to the adoption of interactive technologies applied to education, as much in the support to the face-to-face and distance practices, as well as in its diverse environments and platforms, videoconferences, production, management and distribution of live and on-demand contents, exploring the spectre of collaboration opportunities that includes the independence of time, distance and equipments. Considering that the technological solutions are known and available, their effective use and its institutionalization only will be able to be obtained through presentation and the systematically repetition of a set of procedures, in domino, cascade or in chain effect, producing a set of similar events of variable duration.

Keywords: demonstration effect, motivation and technology resistance, effective use of technology-mediated learning, conversation networks, creative chaos.

Introduction

Proposing changes that reach the field of education is always a very risky subject. The existing proposals are many and the resistance of the people involved even greater. The discussions around the proposals tend to polemicize, not finding a common ground, not contributing to their implementation and thus not being relevant.

The history of technology-mediated learning (TML) is no different. This is a sequence of new ideas and technologies, always counterbalanced by resistance to change, common framework to the most modern countries and even those considered more bureaucratized.

In this paper I focus on analyzing the technology-mediated learning, supporting classroom practices, mixed (blended learning) and at distance, as well as in their diverse environments and platforms, videoconferencing, production, management and distribution of live and on-demand content, exploring the spectrum of opportunities for collaboration that includes the independence of time, distance and equipment.

Whereas the technological solutions are known and available in Portugal, it seeks to try to understand the resistance of professors to adopt them and at the same time, suggest strategies to overcome this obstacle.

The paper draws on findings from the research ‘The Demonstration Effect for the Creation of Learning and Conversation Networks within the Realm of Creative Chaos’ funded by the Portuguese Foundation for Science and Technology and presented at International Educational Technology Conference (IETC 2011).

The main objective of this research was to answer the following research question: to what extent the demonstration effect can act as the most efficient method of persuasion and motivation of resistant professors to the adoption of interactive technologies applied to education, either in the support of classroom practices or at the distance, as well as in their different environments and platforms, videoconferencing, production and management of live and on-demand content, exploring the spectrum of opportunities for collaboration that includes the independence of time, distance and equipment?

Theme of many articles, dissertations and theses, the most common reactions of educators to innovations are centred, according to Gatti (1993), in chronic skepticism caused by poorly implemented and disrupted programs, allied to a natural resistance to changes and innovations. In the specific aspect of e-learning, these motivations detected have been added to the widespread belief in the educational area that dispenses the professor. Perhaps therein lies the main reason for rejection systematically found in educational context, where it is seen as a competitor. Another important point for the reflection of the educators who consider the ICT-based education as second class is the question of the use of these technologies in classroom teaching.

Is it possible for the professor, nowadays, to dispense ICT in the classroom and promote education without the use of the latest technologies?

Of course it is.
It would also be possible to write this text by hand or use technology of yesterday as a typewriter (manual, electric or electronic) or even some PC from the first generations.

The fact that we use the latest media does not necessarily imply in better quality. But meets to the expectations of stakeholder or who is on the other end. And this reduces frustrations…

Educate with new technologies is a challenge that so far has not been faced in-depth.
We just made adjustments, experiences and small changes.
Most often we limit ourselves to pave the cow paths.

The face to face meetings are virtualized and distances become face-to-face. The meetings in the same physical space combine with virtual meetings, at distance, over the Internet.
Likewise the technology-mediated learning increasingly brings people together, through online connections, in real time, which allows professors and students to talk to each other and form small learning communities.

The Internet opens an unimaginable skyline of options for implementation of distance learning courses and flexibility of classroom. By development of the network it is possible to provide, search and organize content and use collaborative tools such as instant messaging, social networks and other media to favour the construction of virtual learning communities.

We have few trained professionals to prepare and manage flexible, semipresential (blended learning, hybrid learning) and distance courses. It is an area of great future, but we are still learning by doing, experimenting and researching.

According to Moran (2003), educating with the support of virtual environments requires more dedication from professors, more support from a technical-pedagogical team, more preparation and monitoring. For students there is a gain of personalized learning, that adapts to their pace of life, especially in adulthood.

With the increase in student access to the Internet, we can improve the curriculum, combining moments of meeting in a classroom with others of individual and group learning. Learning how to teach and how to learn, by integrating face-to-face and virtual environments, is one of the major challenges we are currently facing in education worldwide.

It is important in this dynamic process of learning by researching, using all resources, all the possible techniques for each professor, by each institution, for each class: integrate traditional with the innovative dynamics, writing with the audiovisual sector, the sequential text with hypertext, the physical meeting with the virtual.

What changes in the role of the professor?
It changes the relationship of space, time and communication with students. The swap space

extends from the classroom to the virtual. (Moran, 2003).
The time of sending or receiving information extends to any day of the week.
The communication process takes place in the classroom, on the internet, in e-mail, instant messages, SMS, chat, social network. It is a role that combines a few moments of conventional professor with a much more prominent role of manager research, search stimulator, coordinator of results. It is a role of animation and coordination much more flexible and constant, which requires a lot of attention, sensitivity, intuition and technological domain.

We have to develop rich communication processes, and progressively deeper.
Schools open to the world, to life. Create teaching and learning environments more attractive, immersive and multisensory. 'The technologies, within a pedagogical innovative project, facilitate the teaching-learning process, raise awareness of new issues, bring new information, reduce routine, connect us with the world, with other schools, increase interaction, allow customization and communicate easily with students, because they bring to the classroom languages and means communication of day-to-day' (Moran, 1996, p. 21).

Once sensitized to these realities, it will be easier for professors to accept learning alternatives that have their basis in the process of non presential communication, since 'no one educates anyone, no one educates himself alone, people educate each other, mediated by the world' (Freire, 1996).

Everyone has their level of competence. There is no way to generalize.
There is incompetence: for the computer science, for the internet, for the e-learning environments, for the video conferences, for the production of content, for the management and for the new role of professors in the face of new variables and possibilities.

The comparison of different realities can bring many answers to questions not purely technical.

The distance learning paradigm ended up influencing the classroom teaching and the teaching-learning process before centred on the professor evolved initially for the student and then to communities, coexistence networks established by relationships between professor-student and between students.

The theory of 'Biology of Cognition' of Maturana (1970, 2002 & 2003) considers that 'the task of education is to open spaces for training individuals as beings who are starting points for actions'. Your assumption is based on the fact that education is 'to create, perform and validate in coexistence, a particular way of living'.

In this perspective, the emotions are bodily devices that specify our way of operating at a given time and that determine the difference in the interactions.

Thus, to educate it is necessary constituting a conversation network that coordinates the making and the thrill of participants.

The development of this empowering environment, based on personal relationships and in the solicitude is essential requirement for creating knowledge (Von Krogh, 2001).
This environment supports activities to the professors involving groups and enables the development and storage of individual knowledge. The creation of a proactive place adds organizational flexibility and promotes the institution for the future.

To develop this process it is necessary that the institution provide the appropriate context, based on five enabling conditions, presented by Nonaka and Takeuchi (1997) and Von Krogh (2001): intention, autonomy, redundancy, fluctuation and creative chaos; and variety of requirements.

When these conditions occur in a harmonious and consistent way, it is possible to develop an innovative process based on knowledge. This process works basically two dimensions: an

epistemological (tacit and explicit knowledge) and another ontological (different aggregation levels: individual, group, organization, corporation, chain, network, etc.), in the development of what Nonaka and Takeuchi (1997) baptized by knowledge spiral.

The domino effect (cascading effect or knock-on effect) resulting suggests the idea of an effect to be the cause of another, generating a series of similar events with medium, long or infinite duration.

Thus the demonstration effect can be obtained and this will be the result on the behaviour of individuals caused by observing the actions of others and their consequences.

All the technologies required to access the same set of content in different media are available openly, i.e. without direct costs of acquisition associated.
Environments (Learning Management Systems) that are free such as Moodle and Sakai begin to dominate the e-learning of the universities. And this facilitates the exchange of content (SCORM - Sharable Content Object Reference Model).
The various possible connections made by mobile phones or through virtual environments like SecondLife, ensure a diversity of options. But despite the many plug-ins, many environments have not been made to the current needs (of the new generations): instant messaging and social networks. New generation environments such as Schoology (based on the philosophy of social networks) are coming to meet these needs...

However the main problem persists: the resistance of professors...
People who do not want things to change are those who for some reason feel they have a disadvantage in changing.

My analysis shows that several projects have been and are receiving a ‘red light’ by lack of adherence of professors. This is a national issue, observed also in other European countries.

In this sense, any action that does not count with the suitable previous awareness, preparation, sensitizing, involvement, participation and agreement of the parties shall be subject to the low level of adoption seen in all universities.

The workshops of motivation and/or training conducted have failed to achieve their goals.
Many professors still show some resistance regarding self-sufficiency Informatics. Some are from the time when there was someone to type and format their texts, feeding databases, assemble electronic spreadsheets or even process statistical data of their investigations (Roth, 2011).

The world also has changed for professors. But this resistance shows their non-beneficial results as much as these same traditional people that will select the new professors, that is, the status-quo tends to remain to the extent that normally they seek and form 'pairs'...

Probably the most effective changes will only be established through mechanisms of pressure. Some people only change when they feel insecure and/or before experiencing fear, whether of death or even of being unemployed…

To the extent that many European universities engaged in the pursuit of modernity and the students have a wide range of mobility (EHEA) this can change the options of where to hold its formation, because these customers 'well' or 'poorly' served will share their reviews on the internet, producing a positive free marketing or a negative marketing, depending on the case.

New processes of selection of professors shall arise by changing the current paradigm and requiring new skills. At the same time a higher turnover can be promoted by changing the current standard facilitator of the permanence of retired professors who insist on staying active without adapt to new demands.

If things remain as they are, without any interference, everything seems more unlikely,

although not impossible.
We must reflect on the fact that the use of technology is the responsibility of individuals, and these will only be able to use it to bring benefits to society if they are educated to do such.

In times where all the universities may appear to be (on the internet) what they see fit, where the offerings of courses through e-learning multiply exponentially and where the EHEA "pasteurized" and standardized contents, making equal the different courses, how to stand out in the chaos?

What is the perfect link to not enter into the banality of similar offerings?

I conclude by suggesting that the answer comes from the own question and stems from the Administration's study, more specifically of the Marketing and it's not just for higher education institutions as to any enterprise that wants to stand out and/or start a new lifecycle: innovate, find a correct concept, establish a market differential.

We are facing all the possibilities (creative chaos) and if we cannot innovate with our own efforts, we can at least observe best practices (from other universities and other professors), adapt them and adopt them.

Thus, we can finally see the power of demonstration effect and overcome the forces of inertia, prejudices and immobility.
The demonstration effect is not a panacea (solution to all problems) but can collaborate and contribute to those professors who are committed, interested and willing to change see successful experiences as a model and inspiration for their own transformation.

But for those who remain outside the process, the experience will not have any effect and will still be subject to criticism or questioning.
You can not turn in favour of an idea without having notion of it, just as it is impossible to criticize without knowing.
Entering disarmed in the process is critical. With closed eyes nobody sees anything.

The challenge is actually for universities, institutions that need to adapt.

Some authors believe that these institutions will collapse if they don't follow the techno-social and cultural changes that are inevitable. (Tapscott, 2009).
Many had imagined that the use of technologies (Web-based learning) would be the beginning of the end, (Wyatt, 2001).
But they were wrong…

Over the centuries since the founding of the first institution in the Western world, the university has faced many challenges.
And survived…

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