INNOVATIVE TECHNOLOGIES FOR KNOWLEDGE TRANSMISSION IN THE DAYS OF COVID 19

TECNOLOGIE INNOVATIVE PER LA TRASMISSIONE DEL SAPERE AI TEMPI DEL COVID 19

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Abstract

The aim of this paper is to investigate the contribution of technological innovation in the educational-training process, with a particular reference to the COVID-19 situation. It must be considered that, in this perspective, innovation has taken on a fundamental role in transferring knowledge and educational values. The starting point of the paper was the definition of technology and innovation, and then the focus was shifted to the digital aspects at school.

Il presente elaborato nasce con l'obiettivo di indagare il contributo dell'innovazione tecnologica nel processo educativo-formativo, con un particolare riferimento alla situazione del COVID-19. Bisogna considerare che, in quest'ottica, l'innovazione ha assunto un ruolo fondamentale per il trasferimento del sapere e dei valori formativi. La base di partenza del paper è stata la definizione di tecnologia e innovazione, per poi spostare l'attenzione sugli aspetti del digitale nella scuola.

Keywords

Technology, learning, innovation
Tecnologia, apprendimento, innovazione

Introduction

With the pervasive spread of the internet and its countless applications, the technological revolution has produced profound changes not only in our daily habits and in the most disparate individual and collective behaviors, but also in the field of culture and education. In this particular area, due to today's common use of new technologies, the change in the means of transmitting knowledge has increased. Before COVID-19, the Italian school was strenuously resisting change, perched on its traditional task of literacy, and therefore inclined to defend itself against the dangers of the digital, preserving this discipline and claiming the supposed duty of cultural transmission. The change of scenery has sparked an ongoing debate among intellectuals and learning experts about the effects of such a transformation, which can be already measured in terms of cognitive styles and general cultural levels of the population. This paper is intended to underline, through a purely descriptive analysis, the contribution of new technologies to knowledge transmission in the era of COVID 19.

Technology and innovation

To understand the ongoing processes and the changes in cognitive styles that are taking place in contemporary reality, it needs to analyze the tools behind the change. It is not a question of re-proposing the thesis of internet apologists opposed to the web detractors, with the former emphasizing the extraordinariness of digital technologies and communication on the net, against the latter according to which new technologies risk diminishing the meaning of learning and knowledge. There are still techno-enthusiasts who praise the amount of content that new digital technologies circulate, considering it a sign of democratization of culture, as well as there are the skeptics who criticize the web, condemning the superficiality of its contents and seeing worrying signs of a cultural regression in it (Koak-Usluel, 2012). The way in which these activities are carried out also determines, together with all the many experiences of life, the very organization of the perceptual and cognitive structures through which mental representations are processed. Many studies have highlighted how, with the spread of the web, individual skills of fast scanning and selection are strengthened, while those concerning attention, concentration and reflection, logical elaboration and critical attitude, especially related to reading on the press media, are weakened. Another element that strongly influences the shaping of today's culture is multitasking, that is, the possibility offered by new technologies to do many things at the same time (Prensky, 2013, Rossi, 2014). The habit of multitasking can weaken the mnemonic and prolonged attention capacity, to the point of projecting us into a state of continuous partial attention, not only for the possibility of being reached at any time, wherever we are, but also for the increasing number of automatic notifications from which we are reached thanks to feed readers, news aggregators, social networks, and so on. In summary, in the new technologies of cultural enjoyment and knowledge transmission seems to affirm the primacy of interruption over concentration, of fragmentation over continuity, of present time and not of sedimented temporality, and of current reality over experience (Koak-Usluel, 2009; Galimberti, 1999). So this is not a simple change in cultural consumption, but a radical change in the cognitive style itself, in the transferring of knowledge; a change in which traditional means to produce, preserve, transmit and process knowledge are progressively supplanted by new digital devices, according to a process that is matched with the growing disaffection towards traditional methods. It is precisely the opposite of the role played historically by publishing companies and cultural institutions, that is, to shape learning and knowledge, providing people also the opportunity to learn what they did not know they wanted to know, according to erratic paths of serendipity. Today, as we have seen with the spreading of COVID-19, we are entering a new phase of the history of knowledge in which the profound changes produced, thanks to the spread of the internet and digital devices, will be consolidated in the forms in which we process and transmit our ideas,

our information and notions, and our knowledge. The analysis of the changes and phenomena in the contemporary world highlights a strong link between the affirmation of the knowledge society and the development and diffusion of the so-called new technologies. They have rapidly spread to many sectors (economic, scientific, social, and political) of contemporary societies; innovative technologies have intertwined with many paths of change in individuals, and societies and have been assessed simultaneously both as factors of emancipation and liberation, and as risk factors for the individual and society itself. The diffusion of technologies brings with it, for example, complex phenomena with implications in many areas of social and individual life (such as globalization, the new economy, transformations) involving organizations, companies and societies, and which also have important repercussions in the world of education and training. It is easy to observe how technologies are not only tools through which to communicate, inquire, relate to others and entertain, but are also understood as a series of applications to support or enhance the performance of a number of activities, among which those of knowledge digitization stand out.

Knowledge communication and technology

The evolution of technologies in the information/training and knowledge transfer industry shows two main trends (Di Palma et al, 2019). The first helps improve the potential of telematics communication towards a more natural, visible and intuitive communication; the second gives the user the opportunity to navigate live in a large media database. Content renewal becomes faster and a team spirit arises between students and teachers in different geographical areas. Telematics puts an end to the one-way knowledge issuing, and has created a new line of communication allowing the students to access a content of dynamic knowledge that they themselves can enrich and make available to others. The roads of communication, telematics and computer networks, and all the digital technologies allow for an important support for knowledge transmission, in addition to enabling the use of satellites and networks in order to convey directly multimedia products, databases, self-assessment systems, examinations and electronic message boards. The digitalization process, led by the introduction of new technologies, greatly expands the field of various educational solutions, bringing to the recipient not only the educational message, but also the skills and structured knowledge, and favoring collaborative learning within dynamic virtual spaces (Ranieri, 2013). The richness offered by these communication systems allows for significant changes in the temporal and spatial context of the training environment. As for the time, we can find two key models called synchronic and diachronic. The first disrupts distance learning by allowing the service users to attend live lessons carried out daily in the places where the training is provided, as well as interacting with the teacher and other students in real time. The interaction can then be developed almost as in a real traditional face-to-face context in which the teacher teaches, asks questions to students, the latter answer, and interact with teachers and with each other. Hence collaborative learning situations are developed, which allow to automatically connect the learning material to learning processes and to activate a process of interpersonal communication making it possible to express feelings, stimulate others, and establish social contacts. In virtual classes it is possible not only to reproduce teaching-learning activities as is the case of real classroom contexts, but also to greatly increase the amount of information, activate multiplicity of interactions between subjects of different cultural levels with experiences, culture and educational environments of different countries of the world. The diachronic model is characterized by great flexibility. Users can record the lessons and get their multimedia products, texts and educational software, so as to use them with autonomy and freedom, in an individualized way, by establishing one's own learning times and pace of progression. As for the space, it must be pointed out that school or university classrooms are no longer the only places where to enjoy a teaching service, but anyone can build a space to implement their training and self-learning process anywhere, with

the proper technological equipment and materials (Holland et al, 2011, Mirabolghasemi et al., 2012). Physical distances are now being cancelled, people and cultures are really getting closer, a global system of communication is opening up and changing our way of living, learning and thinking, and allows us to set up a concrete line of innovation and enhancement of the higher education and training system. The means described above transform educational contexts, bring knowledge and training at home, and integrate the ones that Gilbert Paquette called training sites, i.e. the different types of educational agencies spread in a city, which are schools, universities, medial vocational training institutes, museums, and cultural centers. These agencies are nodes of the network of knowledge spread in the city, thus operating at local level, but they are also nodes of access to a globalized knowledge, therefore available to all the people in the world.

School and the digital challenge

Before COVID-19, the school system was little inclined to change; there was a belief that technological innovation posed a threat, and thus it desperately sought to preserve the cornerstones of knowledge transmission by following traditional channels and methodologies. However, COVID-19 presented the real need to use digital tools to continue to train young people who are unable to go to school. But what happens to school when the traditional task of transmitting knowledge is called into question by the swirling information society? Is the traditional way of organizing education appropriate for today's young people, thus for the so-called digital natives? As stated by the European Recommendation on the modernization of education systems (2018),*'' The traditional place of learning, i.e. the school, is now complemented by the many other sources of information available. Modern technologies have liberated education, created opportunities for multidimensional educational activities, and established an educational space. A major challenge is to ensure that schools are the most interesting place in this space. The role of education systems is to mould a well-rounded person who is capable of self-realization in his or her professional, social, cultural and civic life in a diverse, global environment.*"

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These instances were already alive before Coronavirus, although very often feared and removed. In fact, the current contingency can represent an extraordinary opportunity, to rethink the variables of the so-called implicit curriculum: spaces, times, groupings.

Organizational flexibility and blended model will help not to see changes as a pure response to the virus, but as the future of the educational institution, able not to stop at mere regulations implemented in the name of security, but to revive and transform, imagining a new organizational model, in the name of education and educational success. In short terms, it is not simply a question of managing a crisis, but of drawing from it those indications that lead us forward, instead of defending the status quo (Jonnassen, 2007; Missing, 2002; Potter, 2006).

Conclusions

In the presence of a necessary and unavoidable transformation scenario such as that determined by COVID 19, the link between digitalization and training must be subjected to an inevitable review. In the current scenario, the complexity connected to telematic technologies brings to light a very articulated and often fragmented reality, thus the importance of analyzing the shape taken by the relationship between society, education and training, and the effects of the context and the conditions in which educational actions are carried out, play a much more

decisive role than in the past.

Public education will be able to achieve real social promotion goals, if it succeeds in reorganizing itself by enhancing the experience of technological innovation while adopting a proactive mentality and way of working, preparing motivated teachers and introducing an efficient system of communication/monitoring of performance and "good practices", and of simulation of various possible scenarios.

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