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## **TEACHING ANALOG SKILLS IN A DIGITAL WORLD**

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### **Abstract**

*This paper explores the issue of the socio-cultural transformations implicating a change in the learning and teaching processes due to the extensive digitization of human environments. The purpose of the research is to deliver a contextualized insight into the effects of the digitalization of learning and other parts of the public sphere. This issue is being investigated through such notions as nostalgia, retromania, and retro learning with the methods of discourse analysis and elements of ethnography of organizations. It is thus important to point out the most important cultural tendencies in the dynamics of this change by bringing out the significance of non-digital learning patterns. The research's outcome highlights these patterns which build so-called analog cultures, i.e. specific forms of identity construction in the digital setting which emphasizes the importance of the relations between man and machine in the context of skills acquisition for example. The takeaway from the research might be implemented in fields like organizational studies and schooling reforms aimed at improving the effectiveness of digital learning.*

### **Keywords**

Learning, Analog Skills, ICT, Generation Z, Nostalgia

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## **1. Introduction – Bringing Back the Analog Through Nostalgia**

As Simon Reynolds categorically states, the first decade of the 21st century was marked by a retro fascination with what has passed and attempts to repeat it under the sign of the prefix

"re" (Reynolds 2011: xi). Revitalization of old styles and more or less successful remakes of former hits have become the leitmotif of popular music and cinematography. At the same time, one gets the impression that the development and modernization proclaimed by many in the field of popular culture are not taking place at all. The lack of real change in the area of pop culture is, according to Reynolds, a characteristic of the condition of the Western world that feeds on its entertainment products. Of course, it is neither new nor especially revealing. This is because it coincides with the well-known concept of the cultural industry formulated at one time by representatives of the Frankfurt school, and among them developed and cultivated intellectually with particular reverence by Theodor Adorno.

Adorno was aware that the criticism of the modern condition of musical tastes is a cyclical pattern of the struggle between the old and the new, the gentle with the impetuous and the urge to ease it. In his conviction that in the era of mass culture, musical styles are subjected to factors ultimately leading to the degradation of mass taste, the idea is that "in the customary complaints about spoiling the taste, several motifs persistently return" (Adorno 2019: 69). These include, for example, forms based on playing with the senses and emotional manipulation of "isolated moments of arousal". A catchy chorus or a catchy fragment of a piece immediately gives rise to certain states of movement and allows them to be shared on a mass scale with other consumers of the same musical section of the genre, humming the same melody in the shower or on their way to work. Certainly, Adorno's vision affects not only popular music but the image of the entire 20th-century mass culture. The model of the cultural industry that is born along with it operates on the values characteristic of stimulating the consumption ego, where the most important of them is the pleasure obtained through exchange. Speaking of exchange value, the Frankfurt sociologist points to the effects of its application in the entertainment sphere. Music is thus subject to a cycle of exchange not only in terms of the material products of the music industry, such as records and cassettes but also in the context of its symbolic weight. The pleasure that arises from listening to music is multiplied and massaged in this way, becoming not the taste of an individual, but the whole group of listeners. In this approach, pleasure must remain connected with the exchange value, otherwise, it becomes, as Adorno notices, subversive. By not sharing files from our private hard drive, we become a source of resistance, and then we are pointed out as those who not even do not go with the times, but even inhibit cultural progress measured by Internet bandwidth. Consequently, all tools and objects which are not used for exchange and which only slow down the processes

connected with it, are redundant, requiring their owner to explore his particular usefulness. Hence, the analog turntable seems to be incomparably less valuable compared to the access to a music server because of its non-exchangeability, and its proper place today may only be in an antique shop or a museum. Against this background, the repetition of patterns of mass entertainment is associated with a regressive pattern of its production cycles, i.e. with each successive installment of the same patterns of building the commercial success of a radio hit in the summer season, we are served an ever-simpler hit. Adorno identifies this process with fetishization, although in its modern version, the fetish is the most frequently dematerialized object. The infantilization of mass culture is evident here, because "the awareness of masses of listeners is adequate to the fetishized music" (Adorno 2019: 85). It consists in the strengthening of the circle of forgetting and recognizing mass music, which in turn leads to the distraction of the listener (and probably also his overall indifference to the cultural offer in the future).

## **2. Research Issues**

However, repetition does not necessarily mean merely the mechanism of producing pleasure artificially constructed by the cultural industry. Søren Kierkegaard saw this phenomenon as a kind of rhetorical figure that appeared very often in the context of existential poetics (Kierkegaard 1988). It is also an expression of imitation but does not generate its application of a secondary stagnation, contributing to a certain change and redirection of existential paths. For it is not so much a repetition of an individual being and object, but its duplication and duplication. As an imitation of patterns related to the creation of specific cultural objects, this figure also has some normative features. It establishes certain orders (e.g. religious orders, as is the case in the Book of Deuteronomy) as the universal structure of human existence. Repetition as doubling is considered by Kierkegaard in two dimensions - the transcendent and the temporal. In the former, this procedure is associated with specific universal structures of reality, leading to the coexistence of given phenomena on the synchronous plane. In the case of the temporal dimension, however, the succession of phenomena on the diachronic plane, i.e. one after the other, is revealed. In the mind of the Danish philosopher, both axes of playing the theme of repetition lead to the establishment of this cultural thread of a specific type of anthropological reflection. It is what Kierkegaard calls double reflection (*Dobbelt-Reflexionen*), which, in his opinion, is a permanent element in the formulation of self-awareness and human identity on the plane of both material reality and reality

goes beyond the narrowly understood objective culture. As a consequence of this exit, a variety of human biographies and historical narratives are born, resulting from the human experience of subsequent facts.

The nostalgia resulting from the above mechanisms is a phenomenon whose profound impact on the present can be considered in several basic dimensions. Let us recall that in its original meaning the concept of nostalgia referred primarily to a specific medical condition and described a state of melancholy associated with longing for the "good old days", combined with symptoms such as insomnia, weakness, and anxiety<sup>1</sup>. This is how this specific state of mind was understood by, for example, Jan Hofer, a 17th-century Swiss physician. As the etiology of the described state of mind, he pointed to changes in the brain, or more precisely, he maintained that human nerve fibers can retain memory and remain in constant motion. The disturbances taking place in this area make patients suffer from longing for an imaginary home or places that they associate with warmth, comfort, and rooting. The etymology of the concept of nostalgia reflects this early medical concept well, as it combines the Greek terms *nostos* (return home) and *algia* (pain), giving them a normative meaning, and at the same time suggesting an anomaly occurring in the ego's relationship with its environment. In this sense, nostalgic subjects show a certain lack or incompleteness in the emotional sphere, endearing the instability of feelings and an unchanging attraction to any signs of stabilization and at home. This traditional way of understanding nostalgia, however, also demonstrates some important a priori assumption, namely the belief shared by early researchers of the topic that there is some initial natural state of emotional and intersubjective homeostasis, proper to all people, but lost due to various dynamics of social life. It is therefore worth noting in this context that the medicalization of nostalgic discourse lasted until the Western world entered modernity. With the entry into the 20th-century industrialized model of production, the thought that the rapid development of civilization and technology contributed to the uprooting of man was abandoned for a while, initially embracing with enthusiasm the vision of a new and better world in which there was no room for hesitation, and the imperative of movement typical of modernism by definition, it forced the rejection of any form of domestication. However, it soon returned as a phenomenon more overwhelming and more strongly burdened with technological stigma than ever before.

Taking the problem of nostalgia in a slightly more concise view, we can say that it is not closely related to that form of sentimentality. It can, as a phenomenon not so much emotional, as

cultural, play various social and political roles, or finally become monetized by the more dynamic entrepreneurs who see economic potential in the collective interest in past ways of life. It affects both current activities and the processes of the social construction of the category of time, building a specific and collectively shared temporal perspective and contributing to the social reinterpretation of historiography. This view is shared by Keith Naughton and Bill Vasic when they talk about the desire to return to this or that "golden age" that is emerging today (Naughton, Vasic 1998). They recognize that each nostalgic reference, or an attempt to recall ancient times in this spirit, is at the same time an act of reinterpreting them and re-posting certain questions relevant to a given context about the present. However, these questions must be cardinal not only from the social (group) point of view but also result from a subjective (personal) feeling that they should be asked precisely at this and not another historical moment. This conclusion allows us to categorize the phenomenon of nostalgia into its two basic, albeit overlapping, dimensions - personal and historical. William J. Havlena and Susan L. Holak make such a typology, emphasizing at the same time that it is a form of people's reaction to the change in living conditions that directly affect them (Holak, Havlena 1992: 380). Thanks to the connection of personal and collective experience of historical change that is invariably external to us, the concept of memory is constituted in a context that allows it to be established as a problem considered at the level of social dynamics of selected cultural trends that set new directions in the field of custom, language and extra-linguistic ways of interaction. This thesis was elucidated in a way earlier by Maurice Halbwachs, who, while formulating his concept of collective memory, also pointed to the role played by the cultural aspect in its formation (Halbwachs 2008). It is worth noting, however, that Halbwachs defines the foundations of collective memory as marked by the influence of social groups that shape how individuals belonging to them reconstruct the facts underlying their memories. The tool in this process is the language because in the opinion of the French sociologist people think with the help of language. The linguistic determinants of the processes of collective recording of memories differentiate and structure memory in both planes - collective and individual, as well as influence intergroup relations that can be defined in terms of social class. In effect, the processes of memory formation, its transformation due to class needs, and its reconstruction in a culturally and socially dependent language define not only what vision of the past is considered valid, but also how various historical references (including all cultural practices referring to a sense of nostalgia) will be used to build relatively homogeneous group identity.

### **3. Methodology**

Thus, this paper aims at reconstructing the most meaningful paths to new forms of cultural identity that are being formed today in the context of new technologies. The method used in this task is based on the critical discourse analysis merged with the elements of ethnography of organizations. The latter approach is being treated however as a methodological perspective set in a specific new environment the man and the learning man, in particular, are put today. This very environment is being affected foremostly by non-human elements causing a variety of social and cultural reactions, depending on the local context, age of the subjects, and their idiosyncratic ability to cope with the environmental change. As those elements are to be associated with high-tech, they presented analysis focuses on the relations and interactions taking place on the analog-digital plain of events. The crucial notion of analog cultures is therefore treated as a central point of departure in the discussion on the generational shift and the emergence of new competencies of young people in dealing with the digital realm. What is significant in that regard

#### **3.1. The Generational Transformation and Its Effect on Education and The Labor Market**

A similar opinion to the mentioned above is expressed today by researchers whose main object of interest in the context of nostalgia is the model of the culture of consumption and in particular changes in consumer preferences and tastes. Collecting items that fall under the quite capacious term “vintage” seems to be something more than just an act motivated by aesthetic preferences, or even more defined by overly "distorted" therapeutically psychologists unaware of the search for comfort and the desire to return to childhood. This last argument is contradicted by the fact that retro fashions for the 1980s or other selected decades are driven primarily by consumerism, not so much by people born in those times, or by consciously and directly experiencing them, but by generations born after the period to which so ostentatiously they refer to the ways of dressing, music, forms of activity and styles of life carefully reconstructed based on archival photos. As suggested by the McKinsey & Company report from 2018, representatives of the so-called Generations Z (i.e. people born around 2000 and now entering adulthood) show, in terms of consumption, particularly increased interest and readiness to pay considerable sums for products not only of the highest quality but above all showing and emphasizing their individuality (McKinsey & Company 2018). Thus, they make extensive use of nostalgic references to out-of-date subcultures, cinema, and television hits that primarily please their parents' generation, as well as items of clothing that do not bear their original meanings for a long time but emphasize the

individual character of the owner. Features of social activity attributed to generation Z, including the commentators outside the academic milieu, such as Alex Williams and Ben Zimmer, reveal how far this individualistic attitude towards participation in market mechanisms influences Gen Z's choices not only in consumption but also in social areas such as work and education (Williams 2018, Zimmer 2019).

Without a doubt, the generational changes that we are currently observing on a global scale in various labor markets, and thus also in the field of education and in education systems preparing to enter this market, provide some significant suggestions for the potential direction of transformation of the skills desired today the most. The professional competencies and expectations of the representatives of the Z generation are often incompatible with the traditional workplace, which is dominated primarily by discipline and teamwork, and subordinates are mainly driven by their ambition. The necessity to adapt working conditions and organizational culture to the challenges posed by the new generation of employees becomes an urgent task and requires changes not only in terms of reorganizing the structure of these institutions, but also a fundamental change in the corporate philosophy. This process is, of course, in many cases slow and is confronted with relentless persistence with seemingly proven patterns. Moreover, while younger employees are deeply convinced of their competence value, their superiors often perceive them in completely different categories, i.e. as too demanding and unable to accept the systemic limitations imposed on them. This shows a conflict in the area of power relations, which is at least troublesome in corporate structures. In this context, the solution proposed by Frederick Laloux, which is the so-called "turquoise management" appears to be an exceptionally unorthodox, radical, but also innovative approach to this problem (Laloux 2016).

Turquoise management is a model in which decision-making elements are decentralized in favor of flattening these processes to increase both - the effectiveness of individual employees and their redirection towards new, previously unnoticed opportunities. Contrary to management and organizations based on the authoritarian and hierarchical model (symbolized in turn by the red color), the turquoise pattern contains the potential not only to democratize employer/employee relations, but according to Laloux, it is more of a thorough improvement in the operation of organizations and companies leaving today to meet new challenges posed by the condition of the present day and a new type of worker embodied by a digital nomad. It also requires the possibility of bottom-up self-organization and the initial definition of an evolutionary goal constituting the



desired, but not the dominant, functional paradigm. This former Belgian politician suggests that "the concentration of power at the top, dividing workers into those in power and those who do not have it brought with them problems that organizations have been struggling with since I can remember. Power in organizations is seen as a scarce commodity worth fighting for. This situation constantly exposes the dark side of human nature: personal ambitions, political games, distrust, drugs, and greed. At the bottom of the organization, this problem often causes resignation and reluctance" (Laloux 2016: 78). It is difficult in such a work environment for a spontaneous initiative, let alone the innovation of regular employees.

So how to explain the phenomenon of modern nostalgia in the case of contemporary teenagers and young adolescents starting their education, professional life, and development-oriented in the above-mentioned conditions? On the one hand, the expectations suggested in the aforementioned report reflect the fact that this generation is willing to ensure life stabilization in the economic and social sense, being aware of the stratification mechanisms governing the new global economic formula. It becomes clear that within this framework, it becomes important to secure a position resulting primarily from a capital advantage, and only then from a substantive advantage. The popularity of this belief among Generation Z is influenced by the collective experiences they share, such as the Great Recession of 2007, the growing and visible wealth stratification, and the aforementioned increase in the cost of living and the cost of education. The competency capital of young employees, on the other hand, is now undeniably included in the technological sphere, and this is where it gains its importance for further professional practice. They are the first generation who do not know the reality without the Internet. On the other hand, the emergence of certain deficits that result directly from this fact is now also becoming apparent. As indicated by the authors of another report, prepared by Deloitte, in the event of the appearance of infrastructure elements that are not purely informative, these people do not have much problem with understanding the technical principle of operation of audiotape, telephone cables, or floppy disk, but rather hardly accept the *raison d'être* behind the use of these inventions from the past. Although the statement is largely based on the stereotypical approach to the character of generation Z, we can assume that the cognitive dissonance arising from the first encounter with analog technologies is for them a cognitive and cultural problem.



### **3.2. The Reinvention of The Analog**

The discovery of the analog world for some of them is associated with entering a space inhabited by many hitherto unknown impressions. The emotional load accompanying such discoveries is, as Stuart Tannock notes, structured and divides time into what is now and what was once (Tannock 1995). Both time planes meet at the moment of reaching for objects that build nostalgic melancholy, and this connection seems to bind us permanently thanks to such a material carrier of meanings with the emotions of people who used it similarly before us. The image of a cultural practice related to material culture, social orders on which this culture grew up, and the related world view regulating the utility value of a given object, which arises in this process, reflects the present identity, which seeks its source in the world not only of ideas but also in the physical and physical and tangible surroundings. Hence, a nostalgic dream remains closely related to materiality, and vice versa. It is worth noting, however, that the dynamics of these relations are often not symmetrical. Just as when we indulge ourselves in dreams, we only recall selectively selected (consciously or not) fragments of our life, similarly, we now notice that only selected fragments of material history are harnessed into various nostalgic narratives. They create complex stories in which individual biographies are often intertwined with a great history and reveal how these events and processes are internalized, reinterpreted, and used about the construction of a vision of embedding these individuals in a wider field of collective experience. They all share an important common denominator, i.e. the problem of identity. It is visible both in the selection of cultural imponderables and their distribution on the mental map, which otherwise constitutes the basis for constructing nostalgic forms of self-identification. This gives rise to an insight into these processes from a historical, sociological, and anthropological perspective, as their fundamental core takes place on a socially and culturally formed timeline<sup>1</sup>. Nostalgia is never just a melancholy feeling and longing, but it is always realized in the area of collective practice and shared world views in such communities. Cutting off the shallow psychology at this point, this simple methodological procedure gives us a much more contextual and structurally deepened picture of the phenomenon of contemporary nostalgia and retromania. This step allows not only to show the variety of movements and phenomena incorporating analog elements in digital reality but also to better understand the relationship between them and the post-technological society in which they are both rooted and reproduced. It is also necessary to be able to recognize how people engage as

subjects in manipulating the past in narrative order, or how they critically negotiate it in the process of building group identity.

The retromania we are talking about here is a phenomenon composed of several cardinal forms influencing its overall shape. Selected cultural particularisms make up a more general synthesis, creating intricate relationships along the way, combining various dimensions of the nostalgic desire to return with action to make this desire come true. The practice of retromania, therefore, takes forms as different as the subjective views of the past can be different. It makes the history that is not too distant seem light-years away, and the actual prehistory seems disturbingly close<sup>1</sup>. The rich fancy behind retropracticists stems primarily from the fact that globalization as a cultural and social process never really leads to the flattening and homogenization of tastes or cultural preferences to such an extent as to create a uniform platform for expressing fascination with the same idea or material product, even if it is shared in very similar contexts. Retromania in this sense contributes to the enhancement and strengthening of various localisms. The same symbol of consumer culture, such as a Coca-Cola tin banner ad, will be interpreted differently in a North American province, as an element of the interior of a London loft, and yet another element of a landscape somewhere in the countryside in one of the Latin American countries. In the first case, it will be a symbol of the bygone glory of American culture and its golden age, i.e. the 1950s, with the advertising language typical of that period. In the second one, it will be attributed more aesthetic values as an object that fits well with an industrial interior stylized for the era of machines and steel giants. In the third case, the faded white-and-red plaque will remind residents of the painful history of the entire region and the North American intervention that also took place through the economic hegemony of companies such as the Atlanta company or the United Fruit Company (a company known today as Chiquita). Nevertheless, these very different visions of the past are evoked by the same object, but the images that are born thanks to it in the ideational sphere move completely different strings of the imagination. This fragmentation is much greater on a global scale.

The progressive hyper-diversification of the forms of experiencing nostalgia and practicing retromania may lead us to indicate the most important dimensions in which this phenomenon is most fully realized today. The most important of them include the spatial, iconographic, and social dimensions. Therefore, we are currently observing the emanations of retromania that touch on categories related to movement, images, and ways (strategies) of life. I will devote more space to

a more detailed description of these dimensions later in the book, but their correlation should be noted here. Contemporary retromania, unlike, for example, the previously mentioned Egyptomania, is not limited only to the circle of collecting mania or copying a purely aesthetic style. As I have already suggested, retropractices are now also considered as significant acts about the processes of formation of their own identity by the subject, both in the temporal and worldview dimensions. Outlining the timeline and the axis of ideas thanks to linguistic actions and acts allows for the concrete visions of the past carried out by people in the public space.

Retromania is therefore not merely giving a material shape to an abstract historical idea. By implementing a specific type of retropractic, we expressly express certain postulates in this space, e.g. of emancipation, self-determination, or recognition. In this perspective, the discussed phenomenon becomes subversive and can be successfully considered in critical categories as a specific form of social protest. It is therefore also an expression of the political relationship between the past, present, and future, that is, it remains, as Dominic Boyer puts it, "both retrospective and prospective" (Boyer 2012:25). Thanks to this function, anti-colonial, post-colonial, and post-socialist nostalgia have been born in recent years. These phenomena usually result from a sudden (historically, of course) change in political and economic conditions. They reveal themselves in the political and ideological aspect (longing for Ancien régime), but also the economic one (longing for hegemonic domination or utopian egalitarianism). It is noticed by, among others Alastair Bonnett, who suggests that nostalgia research is primarily a study of dilemmas, and that nostalgic movements carry both creative and transgressive potential (Bonnett 2010: 10). Such a combination of radical retro turns and radical futurism also prompts the development of various types of political discourse, which, thanks to their setting in public space, can be related to very current social, economic, and cultural issues. The contestation potential behind the nostalgic turn is highlighted in a few particularly glaring cases. Although the rebellion of the generation Z seems to be, in the conditions of the domination of the culture of consumption and the increasing popularity of solutions in the field of the gig economy, only a viable postulate with no real possibility of a deeper change of these trends, and even more of a thorough elimination, it is worth taking a closer look at this problem in the context of contesting the modern technological paradigm. The indivisible rule of digital technologies is not only questioned, but also sometimes indicated as a source of specific social threats. Retro tools and retroactive measures are to be the answer to those threats.

### **3.3. Retrolearning as a Sense-Making Practice**

One of the solutions that come from the nostalgically shaped sphere of analog objects has a profound impact on today's ability of people to learn certain skills and the transformation of teaching methods and teaching philosophy it requires. As the demands for high skilled alumni and workers grow in the context of the significance of ICT and media in general new challenges appear to the teaching strategies used until previously and that seem ineffective today. The transformation of those strategies requires the change not just in the execution of the learning process in the classroom for example, but more in the relation to the implementation of selected ideas combining the old with the new, and the analog with the digital. This interconnectivity makes the basis for a much more grounded teaching and learning experience in the context of the technological and materialistic turn we are immersed in today. Retropractices in the educational dimension may be thus considered as a sense-making source of influence in the regard to the socio-cultural meanings that surround technology and technological competencies nowadays. The need for the inclusion of those technologies which seem meaningful to young people, children, and all other educational subjects in the first-place casts a light on the pedagogical value of analog things and analog skills in a more performative and cultural dimension. One of such objects which seem to have such a value is computer games.

## **4. Research Analysis**

The relationship between learning and computer games is well recognized from a cognitive perspective. In such cases, IT tools are known as "serious games" are often used in fields such as formal education, vocational training, health education, or education for social change<sup>1</sup>. However, the influence of retro games on the effectiveness of learning processes and the transformation of the environment in which they take place is slightly less known. The collision of the learning environment of ordinary arcade games (ALE) with the retro learning environment (RLE) brings interesting results and observations, as confirmed by the experiment carried out by Nadav Bhonket, Shai Rozenberg, and Itay Hubar in 2016 (Bhonket et al. 2017). It consisted in studying the behavior of artificial intelligence (AI) and live players using the extremely archaic Atari 2600 computers and their derivatives. (e.g. the first versions of the Nintendo system - SNES and Sega Genesis) and determining the increase or decrease in the ability of AI to play the various games available on these systems compared to humans<sup>1</sup>. At the same time, in these studies, appropriately designed

algorithms (Deep-Q Learning) were used to more accurately measure the dynamics of the discussed processes compared to the human factor. RLE reliability was ensured through the use of a unified interface for all users and adding new games to the pool was technically relatively easy thanks to the implementation of uncomplicated programming languages such as C++, Lua and Python. The visual information provided to participants was also extremely simplified, based on 8-bit (Atari) and 16-bit (SNES and Genesis) graphics. In such a designed environment, it was observed that AI showed significantly higher abilities to play subsequent games in situations in which it dealt with classic Nintendo arcade games such as Mortal Kombat, and in games such as Super Mario Bros or Wolfenstein, where cleverness is also required. Algorithms learned even more strategically from the mistakes of their humanoid opponents.

We can notice that video games as a learning support tool are generally perceived today as equal to other methods and techniques influencing the effectiveness of educational processes and the assimilation of information. In this respect, not only retrogaming is an activity that provides many new solutions and educational innovations. The widespread use of visualization itself as an educational tool is a significant consequence of the interest in the problem of human ability to recognize patterns and combine information into larger and more abstract entities<sup>1</sup>. The architecture of human cognitive potential revealed by the use of games supports in this respect the development of competencies in areas such as: linguistic, mathematical, reading, and social skills, and the use of games in special education sometimes also has positive effects in working with children with disorders such as excessive impulsivity or having trouble concentrating. Moreover, not only in these special cases are games an effective instrument for correcting specific behaviors. Especially in the case of young players, computer games to a high degree engage the imagination, and the fanciful worlds presented in them seem to be extremely real for many of them.

Participation in the game is nevertheless fun and is usually treated as an opposite extreme activity rather than a traditional educational effort. However, it is worth remembering that computer games may contain important elements influencing the more or less involuntary acquisition of knowledge, development of selected skills, or strengthening of neuro-cognitive competencies. For example, Marc Prensky points out that games of this type carry as many as 36 rules typical of educational processes<sup>1</sup>. They include, among others putting an individual in a decision-making role, putting them in increasingly difficult challenges, or experimenting with different ways of solving suddenly emerging problems to overcome.

Learning thus becomes a proactive process, stimulating a sense of agency and changing entire cognitive styles. They often help to develop skills and logical sense<sup>1</sup>. They also familiarize players with technology and the use of digital tools in other areas of life. Against this background, retro games, played today thanks to emulations, or at least in ultra-modern conditions, become not only a window to the bygone technological reality and its socio-cultural relaying, but also contribute to an understanding and symbolic connection today with yesterday, and later also determining the place and possibilities of tools that we used to have and are currently operating. In this context, retrogaming would be just one of the many forms of retrolearning available today.

## **5. Conclusion**

Retrolearning is therefore a phenomenon the essence of which lies in the expansion and grounding of consciousness in operating not only digital but also all other human-made tools on the axis of history. It is also an element of an in-depth evolutionary and structural analysis of these abilities related to the changes taking place in the human cultural condition that condition education in any form. We can successfully view retrolearning as part of Norbert Elias self-knowledge of the present day (Elias 2012). This broad formula includes many particular phenomena, the common denominator of which is the inclusion of various references to the past in both formal and informal educational processes. They are treated as independent and still useful (albeit in a different sense) basis for building comprehensive knowledge about the world, ways of shaping meaningful relationships with it, and also strictly subjective self-identification.

As a consequence, technology, objects, tools and information carried by them occupy an important place in the ideologies shared by members, e.g. specific social movements or subcultures arising from the above perspective. It can be said that in the era of extreme digitization of everyday life and social interactions with the use of IT networks, analog cultures are an interesting, albeit marginal, a manifestation of interest in the past. Their nostalgic character may lead some observers to reduce the whole discussion to cultural sentimentality. However, I would be far from such a narrow shot. The possible educational benefits of the analog approach stem from the fact that the use of old technologies is not only a movement that simulates learning lessons from history. It is a more specific analog way of life, the value of which lies in acting for a self-reflective turn that rewrites the story about the relationship between man and nature.

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