


Brief study on generational theories and advances in technology applied to education

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ABSTRACT

This article aims to add to studies on technologies applied to education, generational concepts conceived in an information society, in which the strengthening of its structures occurs through integrated relationships, where advances and technological resources produced intensify and innovate in a constant and supported by the internet and social networks with great intensity. In this sense, teaching strategies always need to be thought of according to the characteristics of each student or class and, also, in which generational structure they find themselves, as the educator starts to identify new ways to make learning viable and produce better results.

Keywords: Technologies, Education, Internet, Social networks.

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INTRODUCTION

It is indisputable the influence assumed by technology and its various applications in the areas of knowledge and in the practical professional field, modifying the economic and social scenario and, consequently, the interests, motivations and expectations of students and future professionals.

The possibility of integrating technologies is clearly seen as a way to quickly bring information and the provision of continuous learning to formal educational contexts, which induces an education in which teachers and students participate jointly and reciprocally in the construction and reconstruction of teaching-learning processes.

The most recent curricular bases seek to induce greater flexibility in the sense of building a collaborative education among the actors, replacing the hierarchical relationship with the partnership between teacher and student. These changes have a direct impact not only on the performance of the teacher and the student, but also on the relationship that is established in the school community. Therefore, from this perspective, the teacher does not impose knowledge, but promotes a mediation process.

It is clear that, in a transformative and multidimensional context in which new concepts and new educational approaches are inserted, some theories in the organizational field can bring important subsidies from generational studies and the evolution of the individual and his integration with new technologies.

THE THEORETICAL BASIS AND THE ADVANCEMENT OF GENERATIONAL STUDIES RELATED TO TECHNOLOGICAL EVOLUTION APPLIED TO THE EDUCATIONAL FIELD

For Harvey (1992), in a Postmodern condition, by exhibiting the concept of space-time compression, attributing a reinterpretation of distances and the breaking of cultural barriers caused by technology, he characterizes this context as an agent element of territorial virtualization.

Therefore, from this thought, it is intuited that information and communication technologies (ICTs) become structuring elements of a new way of living and that sustain new concepts, such as "cyberculture" (LEVY, 1999). According to this author, "cyberculture" alters social relations and, more broadly, pedagogical relations, which, influenced by such changes, seeks to reinvent itself:

"It will be necessary, therefore, to seek to find solutions that use techniques capable of expanding the pedagogical effort of teachers and trainers. Audiovisual, interactive multimedia, computer-aided teaching, educational television, cable, classical distance learning techniques [...]." (LEVY, 1999, p.169)



And from a perspective, from the 1980s onwards, considering the Brazilian case, it is possible to identify more intensely the presence of people who were born after that date and did not grow up using the new ICTs, but who have been included in the digital context. And, it will be in the school, the reference institution for the inclusion of generations, because of the new world trends from the computer. According to the dictionary Houaiss (2010, p.388), the term generation is defined as: "space of time that separates each degree of filiation". A generation can be comprised of periods of up to 25 years.

BRIEF COMPARISON BETWEEN THE GENERATIONS THAT STARTED INTERNET ACCESS

Considering the studies to diagnose the generations that have developed so far, we resort to what was proposed by Camila Casarotto (2020), in her studies with adaptations, from the mid-twentieth century, and which presented the following descriptions:

- **Baby Boomer Generation:** born between **1940 and 1960** (currently 62 to 82 years old).
- **Generation X:** born between **1960 and 1980** (currently aged 42 to 62).
- **Generation Y (*millennials*):** born between **1980 and 1995** (currently aged 27 to 42).
- **Generation Z:** born between **1995 and 2010** (currently aged 12 to 27).
- **Generation Alpha:** born from **2010 onwards** (currently up to 12 years old).

For Casarotto, these generations represent the various phases in which people are situated, in the face of the technological evolutions that the world is going through, especially after the end of the Second World War. Particularly the generations, **Y, Z and Alpha**, which are the most recent, as they are later than technological evolution, that is, these generations are considered "of the computer age", which have particularities described below.

- **Generation Y (*millennials*):** This generation was the last to know the world without the internet. Born between 1980 and 1995 and currently aged **27 to 42**, **Generation Y (*millennials*)** was born with information technology and globalization and, with these phenomena, transforming the world. This group saw the birth of the internet, the world becoming faster, and information circulating quickly in a matter of seconds.

In Brazil, *millennials* were born in the context of redemocratization (after the civil-military dictatorship) and economic and political instability, but saw the country begin to take safer steps with the emergence of the Real Plan. Under this influence, and in these contexts, ***millennials* have become much more flexible to change**. More than that, eager for innovation and the challenges arising from these transformations. For them, it's not so much the stability that matters, but the passion, the boldness, the experience.

Such individuals are constantly connected, build and participate in networks of relationships that corroborate their values and ideas. Their identities are no longer limited to where they live and



their messages reach much more than a circle of friends, that is, the internet has transformed *millennials* into citizens of the world.

- **Generation Z, are those born** between 1995 and 2010, currently aged **12 to 27**, were born in a connected world and grow up with a cell phone in hand, which is why they are also called "digital natives". For them, **there is no division between online and offline**, since they are always connected, everywhere. For this generation, there is no time to lose. They are extremely agile, multitasking and capable of absorbing a large amount of information, after all, they live in the age of big data, the explosion of data and they need to know how to deal with it.

If Generation Y cares about environmental and social issues, through the internet they can express themselves freely, and, in the case of **Generation Z, this group goes further and transforms concern into activism**. In Brazil, this generation was born at a time of prosperity, economic growth and the search for social justice. However, in his adolescence, he was already going through the political and economic crisis after the 2014 presidential elections. It is these adolescents who engage in movements to contest the government – either on one side or the other – and engage politically.

Critically, people of this generation look to the power of the internet and social media. While they are powerful tools for activism and mobilization, they can also be insidious by promoting an illusory lifestyle and affecting mental health, which leads to many cases of anxiety, depression, and even suicide.

Generation Alpha are those born from 2010 onwards, approximately **12 years old today** and have not yet entered the consumer market, although there are not yet many studies on Generation Alpha, it is known that they are already born in a period of economic recession in Brazil and grow up in a time of polarity and extremism. But still, there is no way to predict the future and the effect it will have on your behavior.

On social media, Gen Alpha kids naturally relate to their cell phones and the internet. However, what will mark this generation is its relationship with artificial intelligence. In this way, technology becomes even more integrated into your life, even your own body.

Raised by Generation Y or even Gen Z, Gen Alpha children tend to be even more free about their identity. Girls no longer grow up in a rosy world, which tends to make them more and more protagonists, in positions of power. Gender and sexual orientation are unlikely to be tied down, just as the right to difference will be an even stronger cause.

In view of the analysis of the different types of generations described above, we can then describe the particularities of these generations in the face of the new scenario, which presents itself in the context of education in the world, and, regarding the educational perspectives, the integration of technologies has given rise to a rupture between face-to-face teaching (traditional) and



technological teaching (EAD) in order to minimize the shock of students in the migration from one teaching modality to the other.

"What is emerging, however, in quality universities is the combination of online distance learning with on-site teaching. This means that the future of higher education will not be online, but networked between computer nodes, classrooms, and wherever each student is. Computer-mediated communication is spreading all over the world, although it presents an extremely irregular geography [...]" (CASTELLS, 1999, p.487)

In other words, through the internet, it will be possible for educational institutions to educate their students from kindergarten to the last year of high school through the *Blended Learning modality*, which in the observation of Rovai and Jordan (2004), in their article *Blended Learning and the sense of community*, They call this type of blended education the cornerstone for the new school.

Colis and Moonen (2001) explain blended learning as a modality that mixes, in its curricular components, traditional face-to-face teaching with technology-mediated teaching (online or networked) – where online teaching becomes, for the authors, an extension of the traditional classroom, resulting in a curriculum that is more adaptable to the student's learning needs. providing them with a greater opportunity to seek knowledge and apply it in face-to-face activities, avoiding completely losing the presence of the teacher, making learning more robust and keeping it humanized.

The teacher becomes a mediator of knowledge and no longer a transferor. The student learns through more active methods of learning, in which he seeks his own knowledge, with education as an emancipatory element of the individual, as we see in Santos (2010, p. 3):

"In the field of education, the repercussions of the emergence of this virtual world, coming from global computer networks, are quite obvious. Above all, if we consider that the main role of education lies in preparing the individual to autonomously know how to search for information and transform it into the knowledge he needs, and in the most creative way possible."

It is important to note that this learning does not replace the traditional teaching method, it only complements it. Therefore, the main objective is the possibility of using the two methodologies together, to create a complete, unique and inclusive learning experience.

FINAL CONSIDERATIONS

It is important to add that the generational conceptions addressed in the text were conceived in an information society, in which the strengthening of its structures occurs through integrated relationships, where the advances and technological resources produced in a globalized world are constantly intensified and innovated and supported unconditionally by the internet and social networks with great intensity.



In this sense, teaching strategies always need to be designed according to the characteristics of each student or class and in what generational structure they are, as the educator begins to identify ways to enable learning and produce better results. Therefore, it is worth learning about new approaches. For example, this is the case of the so-called blended learning and learning paths, which, when carried out together, allow the sequenced development of **skills and competencies** among participants.

And, as we said before, the evolution of communication and information technologies has made the daily interactions of generations, in the educational, cultural, social, economic, and political fields, occur in an environment of constant transformation and impacts on the continuity of life. However, it should be emphasized that the Internet will not replace the act of thinking, of reflecting, because it is not only having the possibility of quickly accessing billions of pieces of information without being able to interpret it.

Nowadays there are no advances in the teaching and learning processes, that is, the need to share more and more educational products in repositories, media, MOOCs, courses in hybrid formats is irreversible, however, it is essential that discussions in the educational field advance in this direction, preserving above all ethics.



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