Education and Technology: perspectives for dialogues on education for emancipation[1] [2]

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ABSTRACT

Based on Adorno (2010), Bourdieu (2014) and Vieira Pinto (2005), understanding that education, politics and technology have an almost symbiotic relationship, we established a theoretical discussion on how technologies, in this context, can contribute to political emancipation of individuals, who frequently do not have a cultural heritage. Bourdieu (2014) presents us with the impediments of ensuring an education that is fair for everyone, because for him, the school is the place of social inequality. On the other hand, Adorno (2010) shows us that we need to train for political emancipation, that is, to avoid daily barbarism. In this context of reproduction of dominant structures, as well as of forming critical participant individuals, according to Vieira Pinto (2005), we defend the thesis that the appropriation of technology can be configured as an instrument to overcome social inequalities and to shorten distances between cultural capitals.

KEYWORDS: Education. Technology. Emancipation.

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Educação e Tecnologia: perspectivas para diálogos em torno da educação para a emancipação

RESUMO

Este ensaio teórico, alicerçado em Adorno (2010), Bourdieu (2014) e Vieira Pinto (2005), admite que educação, política e tecnologia possuem uma relação quase simbiótica. A partir desses três autores, é apresentada uma discussão teórica sobre como as tecnologias, neste contexto, podem contribuir para a emancipação política de indivíduos que, quase sempre, não dispõem de uma herança de cultura. Bourdieu (2014) apresenta-nos os impedimentos de assegurar uma educação que seja justa para todos, pois, para ele, a escola é o lugar da desigualdade social. Por outro lado, Adorno (2010) discute que é preciso formar para a emancipação política, ou seja, para evitar o barbarismo cotidiano. A partir desse contexto de reprodução das estruturas dominantes, bem como de formar indivíduos participantes críticos, e de acordo com Vieira Pinto (2005), defendemos a tese de que a apropriação da tecnologia pode configurar-se como instrumento de superação das desigualdades sociais e do encurtamento das distâncias entre os capitais de cultura.

PALAVRAS-CHAVE: Educação. Tecnologia. Emancipação.

Educación y tecnología: perspectivas para diálogos sobre educación para la emancipación

RESUMEN

Este ensayo teórico, basado en Adorno (2010), Bourdieu (2014) y Vieira Pinto (2005), admite que la educación, la política y la tecnología tienen una relación casi simbiótica. A partir de estos tres autores, se presenta una discusión teórica sobre cómo las tecnologías, en este contexto, pueden contribuir a la emancipación política de individuos que, casi siempre, no cuentan con un acervo cultural. Bourdieu (2014) nos presenta los impedimentos para garantizar una educación justa para todos, pues, para él, la escuela es el lugar de la desigualdad social. Por otro lado, Adorno (2010) sostiene que es necesario formarse

para la emancipación política, es decir, para evitar la barbarie cotidiana. Desde este contexto de reproducción de las estructuras dominantes, además de formar actores críticos, y siguiendo a Vieira Pinto (2005), defendemos la tesis de que la apropiación de la tecnología puede configurarse como un instrumento para la superación de las desigualdades sociales y el acortamiento de las distancias entre las capitales de la cultura.

PALABRAS CLAVE: Educación. Tecnología. Emancipación.

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Introduction

Political philosophy has aroused concerns by problematizing the educational space, which means that, discussing the issue in a philosophical way - the "school floor" and its political role. This political place is taken from questions that humanity has not yet answered, among which the following stand out: Is it possible to humanly and politically emancipate individuals? The question may seem unimportant, but it makes sense for educational policies and their unfolding in the educational scenario. One of the alternatives built by education operators is the formation of the citizen, namely, to educate to form the citizen-subject. This has been considered the failure of education, especially public education. In order to promote discussions on education, and more specifically, education and politics, whose perspective is the dialogue around emancipation, we chose the theoretical essay from the authors Theodor Adorno (2010), Pierre Bourdieu (2014), and Álvaro Vieira Pinto (2005). The theoretical essay (ADORNO, 1954) is characterized by its ability to express new ways of thinking, recognizing the movement of life, and keep itself distant from the finalist movement of thinking, aiming for definitive knowledge, which is determined to crystallize. Thus, with this

work, we do not intend to present, if it is the case, a solution to the problem between education and emancipation, but to raise questions for new debates and confrontations.

We assume technology as a tool for emancipation, mainly in the shortening of distances between capitals of culture and cultural will, Bourdieusian concepts that, according to this author, make it impossible to critically and consciously train the individual as an emancipated being. Understanding that technology has an almost symbiotic relation with education, we established a theoretical discussion based on Adorno (2010), Bourdieu (2014) and Vieira Pinto (2005), on how technologies, in this context, can contribute to ethe emancipation of individuals who, very often do not have a cultural heritage. We seek to structure, in a plural way, what comprises the role of education and the ways to respond to everyday adversities, and this understanding results in, according to Adorno (2010), training for political emancipation and, according to Vieira Pinto (2005), to observe technology as an educational instrument that permeates the emancipation of individuals from the re-signification of cultural capital, specifically when it regards to politics.

In that regard, we start from the following concern: is it possible, in contemporary society, to politically emancipate individuals? And to answer the proposed problem, we will use the understanding of technique and technology as a mediating tool of culture in this investigative process. Namely, is political emancipation possible on "the school floor"? Also, we methodologically pursued authors from different sources to help in this research endeavor, of which we highlight Adorno, Vieira Pinto and Bourdieu. Thus, in general terms, we can say that technology is, as a tool, of great value for the formation, in different contexts of the politics of individuals and, as Milton Santos (2005) assures, it is the nodal element in globalization to shorten social inequalities and policies in the light of a political use of technology.

Theorical-methodological construction

The research work was elaborated in three sections. In the first one, we sought readings by authors Adorno, Vieira Pinto and Bourdieu, as well as by commentators. This first moment aimed to systematize the thinking of the those authors, establishing a debate on certain concepts and their theoretical formule in what comprehends a political education.

In session two, the biographies were mapped, as well as the bibliographic productions in which education, politics and technology are limited. The third section was a singular part of this work, in which, after a careful reading of the authors, notes were taken on how it is possible to politically emancipate individuals on the "school floor".

Our readings over Adorno, Bourdieu and Vieira Pinto's aimed to analyze their main works within a methodological context that deals with the issue of conceptual universality regarding political and technological education. All this with a view to a historical and dialogic configuration within the scope of the conceptual debate, which purpose was to survey conceptual discussions in the light of a structural analysis.

Iniciating the debate

At present, long debates have been promoted around education and its dimension in the social and political formation of individuals. Certainly, this is a debate that is already part of the Brazilian reality, but it is worth noting that it has grown and got strength in the most diverse sectors of society. One of the hypotheses for this to occur is the result of the economic crisis, as well as the political crisis, which devastate the Brazilian scenario. It is enough to observe, from a political point of view, how ideological orientations are crossed when thinking or debating education and its role in contemporary society in which, mistakenly, the expressions right and left are used to demarcate

educational speeches. The fact is that, lately, education has gained space in political agendas, especially in party politics.

For this reason, it is urgent to consider, regarding the Brazilian educational reality, the urgency of thinking similar to Theodor Adorno (2010), in education and politics, more precisely, in education for political emancipation. We emphasize that it is not a matter of thinking a strict understanding of politics, taken in the sociological sense, but rather, in an Aristotelian view, in politics as human activity, practice of citizenship, realization of human existence in the organized public space. In other words, happiness in the ethical sense. For Bodéüs, a scholar of Aristotelian thought, "politics is definitely the way in which individuals, gathered in the city, intend to find meaning to their existence" (BODÉÜS, 2003, p. 14).

Certainly, in an attempt to re-signify the debate on education and its political function, in the 1970s, *Education and Emancipation* was organized, which brings together articles by Adorno, writings that are the result of a time, and that aim to respond to question: what is the role of education in contemporary society?

In modern society, it is very common to demand from education the character of formation for the labor market, or, the formation of the versatile – dynamic man who manages to adapt to the needs of the daily market. However, this seems to be a narrow, one-sided and mechanistic view. Definitely, in the globalized world, marked by unemployment and underemployment, as an alternative to capitalism, education remains as change, a rhetorical onslaught. Education should stands beyond all that. However, it is common for the government, whether at federal, state and city levels, to focus on this practice of education policies, as they believe that training for the market solves the most urgent problem in contemporary society, namely unemployment and large-scale underemployment. But as it was mentioned before, this is a limited view, especially for what is conceptualized and what is expected of education, an element of transformation and assurance for an authentic life.

For Bourdieu (2014), the school basically works in the production of an educational culture, as a reproducer of the structures of the dominant class. For this author, within the school, forged by the capitalist system, there is no possibility of emancipation, since its keynote is precisely the reproduction of this economic and social structure. Certainly, this concept of social reproduction is not very prestigious in the educational debate, mainly taking into account the Bourdieusian expedient, the school as an apparatus for the reproduction of social structures, especially because it is expected from it to be a place of change, of social transformation, in other words, a place of political emancipation.

However, we must consider "discussing certain issues that I would have preferred to leave to philosophy because I was convinced that philosophy itself, in fact, so questioning, did not address them" (BOURDIEU, 2007, p.8). In this context, the author believes that philosophy has lost interest in education and, according to Bourdieu, it is therefore urgent to ask, within contemporary society, what is the role of education? Furthermore, it is necessary to think and rethink the educational model so that it can, in fact, contemplate what is called emancipation/transformation and not simply the reproduction of social structures. Also according to this author, it is necessary to change severely, or, to change not only the social structure, but the school model, above all, the discursive model of the liberating school.

> It is probably as a result of cultural inertia that we continue to take the school system as a factor of social mobility, according to the ideology of the 'liberating school', when, on the contrary, everything tends to show that it is one of the most effective factors of social conservation, because it provides the appearance of legitimacy to social inequalities, and sanctions the cultural heritage and the social gift treated as natural (BOURDIEU, 2014, p. 45).

The defense of an emancipatory education is based on the educational reality that affects Brazil, in which a large part of the population, especially young people and adults, seek training and qualification to enter the labor market and, for this reason, reduce the role of education to vocational training in order to overcome this marketing logic, Viera Pinto (2005) calls our attention to the fact that education awakens wonder, what means, in a philosophical sense, to make the student overcome the logic of training for the labor market and can construct meanings for their live and circumstance[6], in the light of a new educational practice that enables technological and scientific advances that favor the improvement of their daily circumstances. An education that is capable of going beyond the limits of training for work, as well as, rhetorically, guaranteeing, without any material basis, social mobility. In the same understanding of Vieira Pinto (2005), Mészáros (2005), in the work *Education beyond capital*, makes a diagnosis of education and points to the risks of linking education and the market, mainly in the capitalist system, claiming the impossibility of emancipating individuals when, in this model of capital, education serves, strictly, as a basis for training manpower.

From this, we see a crossroads in which, on the one hand, according to Bourdieu (2014), education, with the discourse of the liberating school, preserves and reproduces a model of society and, on the other hand, for Mészáros (2005), the educational model, in addition to reproducing the logic of a dominant class, tends to form the individual for the labor market. A market which does not absorb everyone. This culminates in a tragic way according to these authors, firstly because individuals with such training are not always absorbed by the market and, secondly, they are not politically trained, in an emancipatory way, to respond to the adversities of life in society.

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[6] We are using the Orteguian concept of circumstance, ie, the philosopher José Ortega y Gasset's. It is true that the discussion of circumstance is problematic and leaves room for different interpretations. Thus, here is the following statement by Ortega y Gasset (1987, p. 93): "in principle we are what our world invites us to be, and the fundamental parts of our soul are imprinted on it according to the profile of its contour, as if it were a mold. Of course: living is nothing more than dealing with the world." Circumstance as a reality in which each subject is inserted – the world of each subject.

Adorno (2010) insists and claims that education has a political character, because, according to him, it is pointless to think about or debate education if it is not connected with its capital dimension of emancipating individuals, that is, making them critical participants in society. In Adorno's words (2010, p, 121): "education has meaning only as education directed towards critical self-reflection". This reading of education is taken in the Marxist sense. As a member of the Frankfurt School, Adorno absorbs from Karl Marx the following understanding, "the emancipation of the German is the emancipation of man. The head of this emancipation is philosophy, the proletariat is its heart" (MARX, 2005, p. 157).

In this context, education and politics are intertwined in order to form the critical citizen. This training, thought by Adorno (2010), means, in its theoretical framework, to emancipate individuals, especially against the barbarism of everyday life. It is a fact that Adorno's great concern was that Auschwitz would not be repeated, and in this way, the author warns that only in the light of a philosophical and political education, aimed at critical self-reflection, would it be possible to avoid everyday barbarism. According to Adorno (2010, p.19): "Any debate about educational goals lacks meaning and importance in the face of this goal: Auschwitz will not be repeated. It was the barbarism which all education is against".

We perceive within Adorno's thought the concern with everyday life, that is, with life and its circumstances, in which philosophical education is the basis for perspectives of authentic life, in other words, emancipated life. For the author, it is in this context that the school must operate, as it is the school's duty, as a political institution, to form the critical agent who must avoid barbarism. But, still according to Adorno (2010), for this to occur, it is imperative to consider the school as a political place, capable of producing technology, producing science and imbricating them with the daily lives of individuals in the sense that this is the educational goal, emancipate individuals politically, in order to avoid everyday barbarism. Here lies an ideal of education: philosophical education.

It is not intended a certain deification of philosophy as a science, but to think of it as a model of reflection, or, as an epistemic locus of the interpretation of reality, its dialectical understanding, castellated in material reality. According to Professor Pucci, an Adorno scholar on political thought:

> to Adorno, the specificity of philosophy is interpretation. And while interpretation lives all the time an unnerving paradox: on the one hand, in order to continue to be philosophy, it is permanently called upon to proceed by interpreting the data of the real, with the intention of reaching the truth; on the other hand, it does not have any secure key of interpretation *a priori*; it has to build its keys, and it must build them from the evanescent signs that the enigmatic figures of beings and in their admirable intertwinings present to it. (PUCCI, 2000, p. 6-7)

In that regard, the relation between education and philosophy is crucial for the political emancipation of individuals. However, the problem presented so far is twofold. On the one hand, Bourdieu (2014) presents us with the impediments to ensuring an education that is, in the philosophical sense, fair for all, because for him, the school is the place of social inequality, which means that individuals do not have an equal access of education, as concepts such as cultural capitals and cultural heritage are decisive in the learning process for the formation of an emancipated individual. In the words of Bourdieu (2014, p, 46), "the influence of cultural capital can be perceived in the form of a relationship, often found, between the global cultural level of the family and the child's academic success". To Ana Maria Fonseca de Almeida:

> This analysis was what allowed Bourdieu to reveal the importance that the education system and, therefore, cultural capital, had assumed in the strategies of reproduction of

> dominant groups in the highly differentiated societies where this particular institution, the bureaucratized State, was developed [...]. Therefore, the school system can only perform its functions of reproduction as long as this function is concealed. In this way, as Passeron (1986) states more explicitly, the mode of reproduction as a school component can only function as long as the meritocratic illusion is fully producing its social and symbolic effects. (In. CATANI, 2017, p, 315).

It is a fact that we must not forget that Bourdieu's reflection comes from a certain French context, but that it helps us to think and debate the problem proposed, the place of education in the political emancipation of individuals. And in the context of reproduction of dominant structures, as well as forming critical participants, it is necessary to think, according to Vieira Pinto (2005), what is the role of technologies in the school environment, more precisely in political education?

We defend the thesis of the appropriation of technology as an instrument for overcoming social inequalities and for shortening the distances between cultural capitals and bringing students together. We can use as an example the culture of mathematics teaching that must be historically constructed and not just reproduced through algorithms, ready-made formulas, and demonstrations. According to D'Ambrosio (1999, p.1), we understand that:

> Mathematics is validated by the rigor of the proof process. Mathematics that "works", as they say in scientific jargon, that is, a set of empirically proven results, does not have its recognition until it is rigorously grounded. This excludes the entire body of knowledge called Ethnomathematics, which is an integral part of the culture practiced. (D'AMBROSIO, 1999, p.1).

For D'Ambrosio (1999), the culture practiced in mathematics incorporates technological advances and, on the other hand, advances in mathematics and technology are favored, forming a cycle that relates them, explaining that "throughout the evolution of humanity, mathematics and technology were developed in close association, in a relationship that we could say symbiotic" (D'AMBROSIO, 1999, p.1). This issue highlighted here can be thought from certain assumptions, in other branches of knowledge, since, according to Vieira Pinto (2005), technology cannot be dissociated from and in the production of science.

On the other hand, Vieira Pinto (2005) recalls that often the understanding of technology is reduced to the use of certain devices, reifying technologies in machines and equipment, forgetting even that technology cannot be separated from the technique. The author distinguishes that technique and technology should not be taken as synonyms, even though in many situations this is the meaning that the word technology ends up admitting. Vieira Pinto (2005, p. 219-220) discusses three other meanings for the term, one of which is its etymological meaning: "theory, science, study, discussion of technique"; another conceived as "the set of all the techniques available to a given society", and finally, to which he devotes greater attention when discussing the concept of technology, such as the "ideologization of technique".

However, the author warns us that, despite making conceptual confusion in relation to technology and having limitations to operate with more current technological resources, man is quite dazzled by the discourse around technology, forgetting that this is a human creation and that, therefore, its evolution and development depend on the action of man (VIEIRA PINTO, 2005). Therefore, in the understanding of this author, there must be familiarity between man and technology, which must be at the service of man in the improvement of everyday circumstances. And, especially, if well used in educational spaces, it makes it possible to reduce

the gap between individuals who carry and those who do not, in the Bourdieusian understanding, heritages and cultural capitals.

Vieira Pinto also states that, in order to move from underdevelopment to development, it is necessary to learn to manipulate the world in a more sophisticated way, breaking away from the concept of a technological age that, according to the author: "[...] presents itself in a reasonable and serious sense, and another, typically ideological, thanks to which, those interested seek to intoxicate the conscience of the masses, making them believe that they are fortunate enough to live in the best times ever enjoyed by humanity" (VIEIRA PINTO, 2005, p. 41).

This is because, for the author, we are voracious consumers of technology, importing products that are often obsolete and, thus, deluded that we are inserted in the technological era. For Vieira Pinto (2005), in order to overcome this logic that only importing technology can lead to development, we need to think of strategies to develop our own technology.

It is important to consider in this debate Milton Santos' reflection on globalization (2005), aiming for another globalized world. According to him, the material and technical conditions are already given, therefore, it is necessary to appropriate this universe in an articulated way, which means to make technology an instrument of struggle and liberation beyond the manipulation of the capitalist logic that reduces, in some sectors, technology to a technical procedure. Thus, yet according to this thinker, the student can, in the technological context, go beyond the limits of technique. In other words, says Milton Santos (2005) that a computer can, manipulated by a company, serve as a technological instrument, that is, establish connections with the world in an ideological way, and, that same computer, in the hand of a student, serves as a technical instrument, seen and enclosed in itself, an apparatus that performs merely technical functions.

Results

From a structural reading of texts, as well as philosophical incursions, we arrive at the following results: first, we defend the thesis that, from the technology thought here in the molds of Vieira Pinto and Milton Santos, we can minimize distances between different social groups. This happens because, according to Tardif (2000), the teacher is an agent who operates, through his technical and scientific training, transforming and re-signifying places, that is, teachers are actors who guarantee differentiated looks at the multiplicity that permeates the inside schools, being central in the cultural mediation between individuals and society. In this way, technique and technology are allies in this process of mediation of culture – the wonder of the surrounding world and, from that, the political manipulation of technological instruments.

As a second result, the school has a preponderant role, because, as previously stated, the teacher is the mediating agent of culture, but the school is the place that must provide cultural capital, in other words, that ensures democratic access to the objectified goods of culture. For Almeida, Ferrasa and Vidal:

> through a pedagogical practice juxtaposed to a praxis, cultural goods can and should be handled subjectively, with a perspective of incorporation of meanings and values. We must emphasize that this pedagogical practice should not be thought of as symbolic violence, but as a strategy to stop the mechanisms of the perpetuation of social inequalities. (ALMEIDA; FERRASA; VIDAL; 2019, p.332).

Certainly, for Bourdieu (2014), cultural capital can be understood from three states, namely, the incorporated, the subjectivized, and the institutionalized. And when we infer that the school is the place of opportunities for the capital of culture, we do not disagree with the

Bourdieusian understanding, on the contrary, we take as a theoretical reference part of his sociological expedient, because, from this understanding of capital, we insist on the thesis that it is possible that the school exerts its strength, school structure, for the promotion of culture, avoiding incurring in symbolic violence, which means to say, imbricating practice and praxis in the exercise of political and educational citizenship.

Third and final result: the validation of our hypothesis – the imbrication between education and technology can bring emancipatory dialogues to the school floor. Well, according to Adorno, it is possible to emancipate individuals, to make them enlightened, here thought in Kantian terms, "dare to make use of your own understanding! This is the motto of Enlightenment" (KANT. 2009, p.407). However, it is necessary to consider the role of philosophy, that is, of education for emancipation, the critical formation of the subject. In Adorno's words (2007, p. 6), "Authentic philosophical interpretation does not accept the meaning that is already ready and permanent behind the question, but rather illuminates it suddenly and instantly and, at the same time, consumes it.".

With the advent of modernity, it can be said that, especially with Comte, there was a fragmentation of knowledge; more than that, a classification/hierarchization of the sciences and, in this perspective, education was separated from philosophy and vice-versa. Adorno claims, from education, its philosophical character. For this reason, according to Adorno, the formation of the subject must contemplate the philosophical spirit, formation for interpretation and transformation.

Thus, starting from the presupposition of training for interpretation, it is necessary to ensure that the school agents, the students, incorporate capital. It is known that, for Bourdieu (2014), incorporation works as inculcation and assimilation, but this does not happen like magic, it takes some time to happen. Therefore, says Bourdieu (2014, p. 82), "it takes time, it must be invested personally by the investor (like tanning, this incorporation cannot be carried out by

proxy)". Furthermore, only the student should, from a given reality, incorporate capital. Hence, we believe that the school, together with the teachers, can manipulate strategies for the configuration of spaces for assimilation and inculcation of capital, in the light of Milton Santos (2005), technology, in the contemporary world, more precisely in the Brazilian reality, which is connected to the idea of a global village, can and should constitute what he called for another globalization, the technology as an instrument and mediation of a better world, through its political and educational use.

At the end

This thesis is based on the assumption that emancipation, according to Adorno (2010), involves the possibility of appropriating technology, understanding its potential and limitations as a human production. In this sense, Vieira Pinto (2005) contributes to thinking about this relationship between education and technology, with a view to the process of political and scientific emancipation. This is because Vieira Pinto (2005) and Bourdieu (2014), in different contexts, provide theoretical instruments capable of assisting in the configuration of new educational spaces, especially in the reality discussed here, the Brazilian reality, in which education is thought, almost than as a whole as training for the labor market. And also, the school community does not understand technology as a process of not only improving the production of knowledge but also the emancipation of individuals.

Thereby, through the debate presented regarding the role of education in the political and scientific emancipation of the individual, we can make the following inferences: first, in the wake of Adorno's thought, the school must politically emancipate individuals to avoid the barbarism of everyday life. It is worth noting that barbarism is understood as the violation of human rights, the criminalization of

poverty, the irresponsible depletion of natural resources, homophobia, xenophobia, and many other evils that are frequent in society and that are, according to Adorno (2010), reached by the school. Therefore, for this author, the school has the preponderant role of politically emancipating its individuals. And in this context, politics is understood as the understanding of man as a circumstantial being, capable of not only understanding the world in which he finds himself but from the apparatus offered by the world, transforming it. This emancipation is also done in the sense of ensuring the right not only to enter the school but to remain and achieve its goals since its entry does not mean emancipation.

In the same perspective, although in another context, the devices are, according to Vieira Pinto (2005), techniques and technologies that are human products and that must serve man to improve his circumstances. For this to happen, it is necessary to know how to make use of this instrument, to manipulate it as a human product, at the service of man, as a resource to improve his life. This is because, for Vieira Pinto (2005), man ends up being so dazzled by his creations that he begins to forget that they are his works:

> Man marvels at what is his product because, due to the distance from the world, caused by the habitual loss of the practice of material transformation of reality, and the impossibility of using the results of the work performed, he has lost the notion of being the author of his works, which for that reason seem strange to him (VIEIRA PINTO, 2005, p.35).

In this sense, Vieira Pinto (2005) states that, in order for us to evolve from underdevelopment to development, we need to learn to manipulate the world in a more sophisticated way, understanding that technological development is part of human history and, therefore, of human development and evolution of man. And in the context of mathematics education, D'Ambrosio (1990, p. 14), when discussing mathematics as an integral part of

our cultural roots, warns that "when we talk about sociocultural roots, these considerations cannot be forgotten, and mathematics, as a knowledge base for technology and for the organizational model of modern society is present in a very intense way in all this".

From the theoretical debate, we obtained elements that allowed us to conclude that emancipation, especially politically, is the keynote of the contemporary school, more precisely, of the Brazilian contemporary school, and that it needs to go beyond the conception of training for the job market and assume, also, the character of political transformation of reality. School has been, in Brazil, almost always the place that prepares the subject for the labor market, a sort of adaptation of man to the needs of the market, a conception much criticized by Mészáros (2005) that education is for life and not necessarily to meet the logic of capital.

Regarding the use of technologies in the educational environment and its relationship with emancipation, Vieira Pinto (2005) in relation to technology as a possibility of transforming reality, in other words, complains about technologies, in a direct relationship with education, emancipation of individuals. In this sense, it can be said that there is a need to recognize the political character of technology, that is, its emancipatory character, since the relationship between education and technology appears in a fragmented way. There is also the need to think of it as a human instrument that should contribute, in the school environment, as a tool capable of assisting in the production of knowledge and, consequently, in changing the circumstantial reality. And as far as mathematics education is concerned, we see in D'Ambrosio (1990) a close relationship between technology and mathematics, which allows us to understand both as a product of human history and culture, and that, if so understood, can be become tools of empowerment of the less favored and, consequently, of emancipation.

Thus, we conclude that political emancipation is more than training for a specific purpose; on the contrary, it is to create conditions for the individual to recognize himself and know the circumstantial world in

which he finds himself. To emancipate is to arm man with words and technical and technological procedures to withstand the toil of life, that is, to deal with adversities, passions, and everything that prevents the political and social course of human life. This is or it is supposed to be, from ancient times to these days, the laborious task of education – to serve as an instrument to improve life and its circumstantial finitude. The question that seems urgent in this discussion is to understand to what extent one can speak of political education as an artifice for the improvement of human life and how technology is a powerful instrument of aid in this toil. The political life, in Aristotelian terms, is the existential realization of life in society.

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