

## School-World Connection: Innovative Spaces for Citizenship Training

The proposal for the dossier “*Educação, Direitos Humanos e Ética Hacker* [Education, Human Rights, and Hacker Ethics]” deals with the theoretical framework that underlies the research project “School-World Connection: Innovative Spaces for Citizenship Training,” a national and international cooperation project funded by CNPq and supported by CAPES, FAPESC, FAPESB, UFBA, and UFSC. This research was coordinated by professors Nelson Pretto from the Federal University of Bahia, and Andrea Lapa, from the Federal University of Santa Catarina, with the involvement of professors and students from these universities and partner primary education schools, CEEPIA - Centro Estadual de Educação Profissional Isaías Alves, in Salvador, and Colégio de Administração/UFSC, in Florianópolis. Teams from the Interactive Media Laboratory at the University of Barcelona (Spain) and the Institute for Development and Human Rights (IDDH) also participated, as well as researchers from the University of Joinville (UNIVILLE), the Federal University of Rio Grande do Sul, the Federal University of Espírito Santo, the Federal Institute of São Paulo (Campus Capivari) and the Università degli Studi della Tuscia (Italy).

The project took place between 2018 and 2021, conducted by teachers and students of postgraduate, undergraduate, and primary education involved in participatory and activist research from two Brazilian research groups: the GEC (Education, Communication and Technologies Research Group/UFBA) and Comunic (Media-Education and Educational Communication/UFSC). While we were committed to the creation and execution, collective and collaborative, of action plans in the two primary education schools (CEEPIA and College of Application), we conducted reflection and several investigations in these two empirical contexts.

The Conexão Escola-Mundo project started from a concern that directly affected us, as, since the expansion of the Internet, we have witnessed the erosion of the traditional limits of classic media and the emergence of collaborative practices that emerged around a new media ecosystem called digital culture. The already exhausted debate about the inevitability of technological advancement due to the penetration of technologies in everyday life is not contributing to the treatment of the

issue either, as it is common to adopt a binary look at the problem, which is, in essence, reductionist. While some enthusiasts celebrate technology's power to renew political, cultural, and civic life, to liberate oppressed populations, to include the exploited and marginalized (RHEINGOLD, 1993; SHIRKY, 2015; BENKLER, 2006, 2015), more skeptical thinkers denounce the trivialization of politics and culture, the dehumanization of relationships and the breakdown of the social fabric (KEEN, 2007; TURKLE, 2011). To avoid the condemnation of technophobes and the naive celebration of technophiles, digital culture must be seen in all its ambivalence in a distrustful approach that critically navigates across the region between these poles.

A better understanding of the issue necessarily involves recognizing the non-neutrality of technologies and the ever-present threat of another form of social colonization conducted by a new configuration of the cultural industry (ADORNO; HORKHEIMER, 1985; FEENBERG, 2002). However, beyond this step, it must transcend the critical reading of the restrictive conditions given by the technical means and look for loopholes, the becoming of the possible. We highlight as a space of possibility the appreciation of communication in the development of new forms of association and solidarity for the emergence of a free society (KELLNER, 1989) and, in its wake, the pressing critical formation of subjects. Because the problem, not the solution, is in the technology itself. The subversion potentiality of programmed logic (MACHADO, 2002) would be in the human control of Information and Communication Technologies (ICT). Its biggest obstacle still has been our failure to invent appropriate institutions to produce this alternative (FEENBERG, 2002).

As a space for interaction between its users, the Web has expanded the possibility of individuals appearing in the public space and allowed for the increase of plurality. Despite the critical discussion about access to technical means (from equipment to networks and connections) and the inclusion of everyone in the power relations that define access to dissemination (who prioritizes what appears, who defines what is read), we emphasize the necessary empowerment of subjects included in digital culture as an essential strategy for these plural spaces to also configure as democratic spaces of approximation and encounter with the other.

The empowerment of subjects capable of critically and creatively appropriating cyberspace means going beyond the distrustful reception of the media, transcending it, and incorporating an active role as an author and producer (and therefore an activist!), which is the fundamental basis for being present in the digital

culture as complete subjects, in emancipating and transforming action in society. Therefore, we defend that access to technological artifacts, connection to digital networks, and the contents and people of this network should be unrestricted and total. Technological resources today promote the decentralization of production and decisions, enabling a more cooperative and integrated use. The free circulation of information and knowledge, combined with collaborative practices of open production and co-production, bring a new way of life and social relationship, which affects and infects all sectors of people's daily lives.

For this reason, we turn to education, as the challenge seems to lie in exploring the latency of these subjects immersed in a new context - of time and space of technological mediation - where social relations happen differently and the cultivation of man, therefore the culture, changes.

Faced with this scenario, the more traditional formulation of education that is confined to the vision of schooling and, in turn, to acquiring knowledge and skills becomes insufficient. As Martín-Barbero (2014) pointed out, the new status of sociotechnical mutation that today challenges the educational system is the emergence of another sociability and another sensitivity that technologies help to engender in contemporary society. This other sociability shakes the school's walls. It makes us think that the school in the digital culture means a hybrid space encompassing the inside and the outside. The school-world connection becomes a particular and unique space for experiencing and producing knowledge in social processes organized in collaborative networks.

The bet is that the Internet can help vitalize civic culture in informal public spheres and that these can play a modest but relevant role in what Peter Dahlgren (2004) has called preconditions for a citizen identity and engagement in public spheres promoted by new forms of online participation. However, this potential may come to be expressed if the network action is exercised critically, that is if the subjects who inhabit and produce this digital culture are capable of doing what Milton Santos called another globalization: recognizing the determinations posed by digital technologies and still seek alternative forms of appropriation that meet more human and social objectives (LAPA, A., 2013).

Faced with the current context of immersion in digital culture, we face two main challenges. The first is related to the acceleration and expansion of forms

of communication that could mean a more significant condition of plural dialogue, coexistence with the difference, and encounter with the other, but which have been shown to promote intolerance, prejudice, hate speech, and violence. Digital communication networks have been allowing people to access information and resources, articulate their own stories, influence political issues that concern them, and increase confidence and autonomy to make free and meaningful choices (FORTUNATI, 2014).

On the other hand, the expression of hatred has never been seen so freely. The promotion of segregation, racism, and discrimination, for example, stretch the limits of human rights and have repercussions outside the web. We agree with Déborah Antunes and Antonio Zuin (2008) about education overcoming barbarism. However, in its current form, education reflects and mirrors these competitive and excluding models of social networks and, contrary to expectations, helps to make explicit and reinforce, increasingly, the relationships of heteronomy established in the world beyond the school walls. In this sense, practices of violence in schools must be understood through social analysis, in how the objective forces of society are organized and how they materialize and calcify in the subjects who develop in this environment.

The real leap towards overcoming barbarism (the non-recognition of the other and the consequent attempt to exclude them) takes place through an education that proposes the acceptance of otherness and the necessary democratic coexistence of plurality. The path for educators and teachers is to create spaces that promote the encounter with each other. Identifying, in technological mediation, forms of appropriation that subvert the tendency to polarization and intolerance towards use that encourages encounter and dialogue with the other. The other is understood here as anyone different from me who, in his/her encounter with me, in the exercise of identity and difference that promotes this encounter, can make me aware of a diverse and inclusive world.

Therefore, the relevance of education for human rights is highlighted, which, according to the World Programme for Human Rights Education, is defined as a process of learning, training, and information that promotes a universal culture of Human Rights. It involves, in addition to learning its contents (what these rights are and their protection mechanisms), “the acquisition or strengthening of skills necessary to apply these rights practically in daily life” (BRAZIL, 2009, p. 25).

It was based on these assumptions that this area became linked to our field of studies and debate on the integration of digital information and communication technologies (DICT) into education since it is indelibly associated with the idea of social transformation and has a broad affinity with the emancipatory and democratic character of educational practices in the digital culture we defend.

For this possibility to materialize, however, other “educations” are necessary (PRETTO; PINTO, 2006; PRETTO, 2011), different from those conducted by the current education system, with or without DICT. We think about the need for greater focus on the process than on the product, the creation, and experience of spaces of possibility for democratic and citizen training, which contemplates the approximation and the encounter with the other. For this reason, to face the challenge of the growth of intolerance and violence and its amplification through new forms of communication, we highlight education for human rights as an alternative through immersion in digital culture, in hybrid spaces of online-offline connection in a hacker perspective. A perspective based on the ideal of those young students (particularly at MIT/Boston) who were interested in technological development and changes in the world. They designed programs and machines based on a new language beginning to be conceived and whose methodology was to solve problems in a shared way. Moreover, each solution achieved circulated to be the object of criticism by new collaborators, outlining a code of ethics for the first hackers (LEVY, 2012; HIMANEN, 2001).

At the same time, these other educations are constituted from the realization that DICT provides other and new forms of communication (which are a relevant current space for children, young people, and adults to live together) and, thus, constitute a fertile ground for the transformation. The question that poses to us is whether there would be instruments and methods capable of allowing these (hybrid) spaces of network communication to be appropriated within the school in a perspective of meeting with the other, of recognition, conviviality, and exaltation of difference, of respect for plurality and dialogue of differences in search of a possible ordinary world. The search for this alternative has become a vital action space for constructing a new school in the digital culture.

With that, we arrive at the second challenge in our proposal: the inclusion in digital culture through a critical and creative appropriation of DICT. Previous research in the research groups GEC and Comunic (Lapa & Espíndola, 2019; Lapa & Lacerda, 2018; Pretto, 2017; Quartiero; Bonilla & Fantim, 2015) identified

some problems, such as a) the distancing of school professionals from the processes of decision-making about policies and proposals to be implemented in their school units; b) the constitution of a communicative context and a new culture of production and circulation of knowledge due to the growing adherence to digital technologies of information and communication in the daily life of the population; c) the need to insert a critical education perspective oriented to human rights to public education policies in the country; d) the absence of integrated and integrative public policies in the different areas of knowledge, thus not making it possible to face contemporary challenges.

We realize that facing the significant challenges posed to education by integrating DICT - and to the school - demands a multifaceted look at the various components that populate the educational ecosystem. Digital information and communication networks have “brought down” school walls, at least potentially. Everything is in question: curriculum, teacher training, educational materials in their various supports, and school architecture. However, the public policies implemented over the years continue to leave the educational system at a level of stagnation that does not offer a way out of the enormous national problems. In this way, professionals closer to this reality end up being excluded from management initiatives and creating strategies to face the identified challenges. This limit was evidenced by the planetary crisis of the Sars-Covid-19 pandemic, which no longer covered up the various unfulfilled tasks in integrating DICT into schools, especially public ones.

The sociologist Muniz Sodré (2012) already pointed out that the results will only be achieved from a national pact on education through consensus established not only in the technical circle of specialists but in the public sphere in a collective political project in which the political class echoed collective aspirations in a more democratic way. The scenario in schools leads to a paradigm of rarely integrating DICT in teaching. When it happens, it is mainly in the initial stages of familiarization, adoption, and adaptation of DICT in traditional teaching practices and rarely in creative and inventive appropriation (ESPÍNDOLA, 2010).

Alternative practices can be found in examples woven from the ecosystem of exchange and collective production of knowledge that takes place on the Internet. New practices linked to the notion of Openness (open

science, open access, open data, open educational resources) are conquering space and starting to be present in several areas, but with little intensity in school and teacher training, making that there is a significant mismatch between education and the contemporary context. We have seen this perspective of openness and free access to knowledge grow, thus expanding the significant Open and Citizen Science movement (ALBAGLI; MACIEL; ABDO 2015). The examples of successful projects in this line are significant, showing how much social production transforms the market and freedom (BENKLER, 2015).

The tendency to open up essential practices, such as the one mentioned, reaffirms a movement of understanding of society whose organizing bias is centered on knowledge, mainly networked knowledge. In this sense, Bartolomé Pina (2011) states that the key to preparing competent citizens in the Learning Society is teaching them to be able to analyze a situation and find the essential elements, to ask unresolved questions that will allow understand and move forward.

This intent demands academic research, activist action by the researchers themselves, and strong involvement of the school community from the beginning of all processes and permanently. In this context, the role of the school changes because, if on the one hand, it is more evident that it is not (and never could be) the entire space for learning and the production of knowledge, on the other hand, it plays an essential role in its participation and reference in the various educational public spaces of contemporary society. We say more: it is a privileged space for this formation and performance of youths, here always understood in a plural perspective, as insisted by Juarez Dayrell (2007).

Moreover, these youths, for them to become re-encharmed with school, need to see meaning in it. For us, one of the paths, certainly not the only one, but of significant importance, is to strengthen the production dimension of cultures and knowledge to the detriment of a logic centered on the consumption of information. Furthermore, here, the hacker movements can serve as an inspiration for constructing what we call a plural perspective of education, with the strengthening of teachers and students as makers of their own time.

Explaining a little more in detail. The idea of collaborative and shared production gained prominence at the end of the last century with the development of computing and with the free and open-source software movements. These were the hacker movements that emerged at the beginning of the development of computer



science: those first young students interested in technological development and changes in the world who began to design programs and machines based on a new language that was beginning to be conceived. This way, the binary language was born, making digital possible. These young people, gathered in the garages or laboratories of American universities, particularly at MIT (Massachusetts Institute of Technology), with or without their professors, began to develop the first personal computers. Most of these movements had as their principle an intense logic of sharing, inherent in the very culture of those who came to be known as hackers. The production process of these new devices had as a methodology to solve the problems that arose in each of the projects in a shared way. Moreover, each solution achieved circulated to be the object of criticism by new collaborators, as we have already developed in a previous article (PRETTO, 2010). This young group was organized around youth clubs, and they got together to solve the technological problems that arose. With that, they created and developed new prototypes. While these young people innovated technologically, they created at the same time what Steven Levy called the code of ethics of the first hackers (LEVY, 2012). For the hacker, access to computers and anything that can teach something about how the world works and information itself must be unrestricted and total. On the other hand, hackers' creations must always be available to be improved, being important not to rely on arguments from authority and, at the same time, always promoting the decentralization of productions and decisions. For hackers, decentralized systems work much better than centralized and bureaucratized ones. A hacker actively participates in his social group: he produces content. He circulates it immediately so everyone can assess and improve it. They recognize each other's efforts and give credit to previous developers. A hacker should not be judged based on qualifications, age, race, or position but on his work. For the hacker movement, it is essential to continuously innovate, constantly seeking to improve what has been produced.

This collective creation model has led us, as researchers, to seek to understand better the working processes of these liberating experiences, which escape the reductionist framework. We assume that this model of collaborative work enriches learning processes and, by ignoring this universe for research, the field of education wastes the potential of this movement in making contributions to educational models that can, according to the view defended here, place the school in consonance with the forms of production and exchange of knowledge in the 21<sup>st</sup> century.



The hacker ethic brought to education and research in education means appreciating autonomy, protagonism, empowerment, authorship, and collective and collaborative production. Hacker education presupposes a collaborative practice that brings free and open access to knowledge and knowledge products, which heralds a process of collective action and activism (BONILLA; PRETTO, 2015).

Therefore, this dossier tries to think and propose other paradigms for education based on the interrelationship between education in human rights and hacker education, articulating and putting into dialogue theoretical and research contributions that integrate this synergistic environment of the conception of this paradigm for other educations, which may perhaps better respond to contemporary challenges. This theoretical and methodological framework guided the actions and research of the Conexão Escola-Mundo project, but, being faithful to the events and its initial premises, it was constituted little by little, in meaning and practice, in the relationship of the participants and those involved, in the reflective and activist action in schools and universities, in the collaborative spaces created as opportunities for the production of knowledge in the project's collective and activist action process.

In this way, the dossier “*Educação, Direitos Humanos e Ética Hacker* [Education, Human Rights, and Hacker Ethics]” was prepared with the intention of contributing to reflection and action in Education in one of its significant challenges that refers to the critical and creative formation of the subject for its inclusion and empowerment in digital culture. By gathering in a publication a network of researchers formed (and expanded) for the research project, this multidisciplinary team shares its specific research baggage that contributes to collaborative research, such as hacker school/hacker education; education for citizenship in digital culture; human rights education; teacher training; new learning contexts; public policies on education in the digital age; free software; platform capitalism, among others.

The set of articles in this dossier constitutes a myriad of perspectives on this theme, which is multifaceted. Our approaches intertwine throughout each of the texts in such a way that the order presented here represents this movement, somewhat chaotic, sometimes being research, sometimes intervention, sometimes methodological proposal, sometimes presupposition for the research, sometimes its results, of such that it is the set that enables the construction of what we are calling an intervention methodology with/in the school for training in human rights within the perspective of hacker education.

We begin our debate with the article by Isabel Colucci Coelho and Andrea Brandão Lapa: “*Escola e Internet: espaços de formação para a cidadania* [School and Internet: Training Spaces for Citizenship].” The authors, outraged by the unfulfilled promise of democratic expansion brought by the Internet and other digital technologies for network communication, provoke us to reflect and enunciate the challenges posed by the integration of technologies into education. To look for possible spaces for the critical formation of citizens in the context of digital culture, the subject of study and investigation in the research group Comunic/UFSC, they bring us the proposal of an alternative paradigm of education based on education in human rights in a school connected with the world. As content and practice for democratic and emancipatory education.

Tel Amiel, Thiago Pezzo, Leonardo Ribeiro da Cruz, and Luisa Antunes Oliveira provoke us to think about the growing partnership of public institutions with large technology companies for digital services for education in the article “*Os modos de adesão e a abrangência do capitalismo de vigilância na educação brasileira* [The modes of adhesion and the scope of capitalism of surveillance in Brazilian education].” From the analysis of the agreements signed between them, the authors problematize the treatment of private strategic and sensitive data of professionals and students of the institutions and the consequences of these choices for the autonomy of these teaching networks and institutions.

Next, the article “*A Educação em Direitos Humanos na América Latina* [Human Rights Education in Latin America]” invites us to an intercultural dialogue between human rights education experiences in different Latin American countries, such as Uruguay, Chile, Argentina, and Brazil. Influential intellectuals and activists from their countries, Fernanda Brandão Lapa, Fernando Alberto Willat Koch, Isabel Plaza Lizama, and Matias Pascual Penhos, analyze and relate public policies and actions in their respective countries, seeking convergences that point out standard parameters that could be assumed as minimum bases to reach the full human development that we desire in our continent.

The challenge posed by human rights education in the contemporary moment refers to training for citizenship in digital culture. It necessarily slides into the role of information and communication technologies in society, particularly their presence and integration in education. In this sense, in the article entitled “*Educação na cultura digital: novas ambiências de aprendizagem e implicações para a formação de professores* [Education in digital culture: new learning environments and implications for teacher training],” Antônio Bartolomé-Pina, Marina

Bazzo de Espíndola, Ian Narciso Rocha Lima, and André Ary Leonel problematize the central issues of educational thinking in contemporaneity, weaving a reflection on the limits and pedagogical possibilities of DICT in the constitution of new learning ambiances in digital culture. As a central question of this theoretical essay, they reflect on the implications of this context for teacher training in dialogue with the voices of the team of teachers from a partner school in the project. Because it is a challenge that requires new content and new methodological paths that encourage authorship, protagonism, collective production, collaboration, and research, the authors finally present the design of a training proposal based on research and collective development of educational actions experienced in the first cycle of the Conexão Escola-Mundo project.

The article “*Cultura hacker e educação: percepções dos hackers sobre a vivência de elementos de sua cultura nas escolas* [Hacker culture and education: perceptions of hackers about experiencing elements of their culture in schools]” presents an investigation carried out with hackers from different movements and countries on how they consider the presence of hacker culture in schools, part of a doctoral thesis defended at the Autonomous University of Barcelona. Pointing out relevant aspects for hacker education, Alexandre Aguado, and Isabel Alvarez Canovas analyze meanings and relationships between critical pedagogy and the characteristics of hacker culture pointed out by hackers as a reality and a possibility.

Daniel Silva Pinheiro, Karina Moreira Menezes, and Salete de Fátima Noro Cordeiro will help us to see the possibility of hacker education in practice when they present and analyze experiences of open and collaborative practice developed, one within the scope of the Conexão Escola-Mundo project in school and the other in its relationship with a curricular component of the degree course at the university. In the article “*Criar de um jeito hacker: experiências na/com a escola e a universidade* [Creating in a hacker way: experiences at/with school and university],” they urge us to reflect on the potential of the hacker way of being in the practice of the structure of education systems, whether school or university.

Finally, Carla Aragão, Karla Brunet, and Nelson Pretto take us to the school floor to practice and glimpse how this hacker education could be constituted after all. The authors propose in the article “*Hackear a educação por dentro* [Hacking education from the inside]” ways of operating transformations at school from the activist perspective of empowerment, authorship, and collaborative production of hacker ethics. They make the school’s proposal with a hacker way of being, anchored in many years of research and experimentation in public schools from the research group GEC/UFBA.

We hope that this publication contributes to the field of Education by addressing other paradigms for open education that is connected to the world based on the critical and creative inclusion of subjects in digital culture. We bet that our multiple, networked perspectives, also produced collaboratively from the outset, could become elements that make it possible to build an ecosystem favorable to the formation of citizens for human rights in digital culture and that can be incorporated into pedagogical practices in formal and non-formal educational contexts, as well as constitute elements for a profound rethink of Brazilian public policies in education, always in an expanded perspective that involves in an integrated and integrative way several other areas such as communication, telecommunications, culture, justice, among others.

Finally, it is worth reaffirming that this dossier results from reflection and practice conducted by many hands and voices in the GEC and Comunic research groups. We strive for collective and collaborative work, and a fine line often defines authorship in these contexts. It would be fair to say that when we formalize in words what we discuss in the Project's interactive contexts, we can acknowledge everyone's presence. More than the image of the mosaic, of the whole that brings together the various individual parts, a better analogy for our work would be the hologram, in which each part brings the whole in itself. We are not fragments that come together because we are already so mixed up that we already identify with each other. We are fractals, not fragments.

Our proposal and bet are that these networks thought, experimented, and shared here can be improved, inspiring many other attempts. So, may we remain and penetrate, grow, and continue. In order to continue together from here, we offer our collective "home" so that it can be a space for this continuity of dialogue: [www.escolamundo.ufsc.br](http://www.escolamundo.ufsc.br) or [escolamundo.ufba.br](http://escolamundo.ufba.br).

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