



# Horizontal pedagogical experiences relating sciences, art and citizenship

## *Experiencias pedagógicas horizontales relacionando ciencias, arte y ciudadanía*

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### Abstract

The objective of this work is to report on the pedagogical experiences conducted by undergraduate students of semipresencial courses, from 2014 to 2016, in the context of projects of teaching initiation and of universitarian extension in public schools and Nova Friburgo distance education center located in the mountain region of the state of Rio de Janeiro, Brazil. These pedagogical experiences - the "Mostra de Artes" event, papier maché workshops and activities on occupied schools - related the teaching of science, art and citizenship in a decision-making process that was decentralized, horizontally organized, in which the speech and wishes of the students and the community were always considered. We argue that educating for citizenship is to guarantee the participation and action of individuals in collective spaces in a critical and autonomous way. The art was placed as a dialogical channel that enabled the expression of thoughts, knowledge and feelings which are part of the collective construction of being

a citizen. In this point of view, art is fundamental for the re-signification and retaking of the role of each citizen in the collective, having as principle the dialogue and the key notion of knowledge-emancipation. Based on the results obtained, it can be said that it is making decisions in a collective that builds citizenship, and art has shown to be an important catalyst for this process.

**Keywords:** Science Teaching, Daily Life, Interdisciplinarity, Teacher Training, Distance Education, Curriculum, Art-Citizenship, University Extension

### Resumen

El objetivo de este trabajo es relatar las experiencias pedagógicas realizadas en el contexto de proyectos de iniciación a la docencia y de extensión universitaria, por estudiantes de cursos de licenciatura semipresenciales, en escuelas de la red pública de enseñanza y en el polo de educación a distancia de Nova Friburgo, localizados en la región serrana del estado de Río de Janeiro, Brasil, en el período de 2014 a 2016. Estas expe-

riencias pedagógicas —el evento “Muestra de Artes”, los talleres de papel maché y las actividades en las escuelas ocupadas— relacionaron la enseñanza de ciencias, arte y ciudadanía en un proceso de toma de decisiones descentralizado y horizontal, en el cual el habla y los deseos de los estudiantes y de la comunidad eran siempre considerados. Defendemos que educar para la ciudadanía es garantizar la participación y la acción de los individuos en los espacios colectivos de forma crítica y autónoma. El arte funcionó como canal de diálogo que permitió la expresión de pensamientos, conocimientos y sentimientos que forman parte de la construcción colectiva

de ser ciudadano. Desde este punto de vista, el arte es fundamental para la resignificación y para retomar el papel de cada ciudadano en colectivo, teniendo como principio el diálogo y la noción clave del conocimiento y emancipación. Con base en los resultados obtenidos, se puede decir que la ciudadanía se contruye tomando decisiones en colectivo y que el arte ha demostrado ser un importante catalizador de este proceso.

**Descriptor:** Enseñanza de ciencias, cotidiano escolar, interdisciplinariedad, formación de profesores, educación a distancia, currículo, arte-ciudadanía, extensión universitaria.

## 1. Introduction

This paper aims to report pedagogical experiences that interrelate sciences, art and citizenship. These tasks were performed in schools of the public school system and at the regional center of the Center of Distance Superior Education of the State of Rio de Janeiro (CEDERJ<sup>1</sup>), located in the municipality of Nova Freiburg, in the period from 2014 to 2016. These Pedagogical experiences, which form part of projects of extension and of initiation to the teaching, were produced through activities that involved the university, schools of basic education, the community and various artistic languages such as workshops, debates, films, recitals, exhibitions and mixed events of science and art. Regarding the adopted methodology, the decision-making process was decentralized, each participant in the activities had the possibility of adding ideas, criticizing, doing the activity individually or working collectively. All processes were impregnated by debates and contextualizations. The topics covered were chosen by the participants. In the case of school activities, for example, the students’ speaking space was guaranteed, the subjects were chosen by them and their participation in the decision-making process triggered many of the issues that will be reported here.

We defend that to educate for the citizenship is to guarantee the participation and the action of the individuals in the collective spaces

in a critical and autonomous manner, because it is in exercising and practicing the empathy, the solidarity, the responsibility and the dialogue in the daily living, that citizenship is developed. Being a citizen is to participate critically in society and to be aware of the rights, responsibilities and consequences of choices in decision-making processes (Gadotti, 1992, 2000). In this context, the three editions of the “Exhibition of Arts” event that takes place annually in the regional center of Cederj in Nova Friburgo; the papier maché workshops held at a public school and the activities of another school during the student occupation movement in the State of Rio de Janeiro will be reported. The art was placed as a channel of dialogue that made possible the expression of thoughts, knowledge and feelings that are part of the collective construction of being a citizen. We highlight the active participation of the students, their communities and the importance of these experiences in the training of teachers in the distance learning mode.

## 2. Theoretical and methodological basis

The sciences and the arts are productions of human cultures, and every human culture has experienced, at different times, various relationships with them. Humanity always observed its environment and, through experience, perceived



patterns that governed its universe. By acquiring new technologies, it gave other meanings to the elements, generating new interpretations about their reality and new ways of communicating and expressing what they considered essential to their existence (Cambi, 1999).

It is possible to affirm that, according to the paradigm of modernity, science proposes to organize the thought in an objective and rational way while the art works with what is considered subjective and sentimental. However, the separation between the objective and the subjective is subtle, for practical purposes it is difficult to say, precisely, where the two separate (Bourdieu, 1996). There are even authors who question whether this separation exists in fact or is the result of an attempt at “purification” (Latour, 1994).

According to Gadotti (1998), there was no separation between science, mysticism and art in the rustic forms of education existing in the first human groups, before the consolidation of agriculture and sedentary life in cities. Even today, in the most isolated cultures, great importance is attached to the oral tradition, where important knowledge is transmitted from generation to generation, often in the form of songs. In this case, art acquires the fundamental role of mediator between the generations, being present in all the processes of communication, teaching and learning (Sabbatini, 2001).

Today, education is considered a way for citizenship; art a form of expression of citizenship; and science a necessity for the fullness of being citizen in society, since it is becoming increasingly technological, scientific and global (Rocha, 2000).

However, the concept of citizenship had different meanings throughout history. In ancient Greece, for example, “women, the elderly, children, the disabled, foreigners were excluded from the nature of being a citizen” (Ribeiro, 2002, p.117).

In feudal society, the serf possessed some rights, mainly linked to the land, but it was alien to the citizenry, because it could not assert

its voice in political decisions (Rossi, 2012). In colonial Brazil only the Portuguese linked to the crown had the status of citizens (Dal Ri, 2010). In Renaissance literature, various authors treated education as a means to achieve citizenship. They argued that free and secular public education would guarantee a just and egalitarian society (Gadotti, 1998, Silva, 2014). However, the egalitarian discourse possessed contradictions, because education at that historical moment was in fact not accessible to all (Ribeiro, 2002). There are also visions of citizenship that are broad, as implied in the concept of the global village of Herbert Marshall McLuhan (1996).

It is important to emphasize that, although for purposes of teaching, the understanding of the concept of citizenship is being approached throughout history, we do not believe in the irreversible arrow of time proposed by the modernist agreement, that is, we do not understand the time that passes as the elimination of a wild past in search of progress. In the end, as Serres (1992) apud Latour (1994, p. 74) points out, “we are interchangers and time mixers”. Art was removed from science by being seen as subjective, hidden, difficult to quote or quantify numerically, because it did not fit into the Newtonian/Cartesian view, because it was more linked to feeling than to reason. But, according to Amaro (2004), it is necessary to reestablish the contact between sciences and art in education so that science becomes more didactic, more dynamic, becoming a language more accessible and directed to the citizenry. For the author, to be a citizen in a highly technological society, it is necessary to understand the science that produces technology.

The hegemonic projects of education seek the maintenance of power, perpetuating social injustices, exclusions, discriminations and privileging a few. But there are also projects that look for a more critical view<sup>2</sup> on society and the issues of citizenship.

It is important to emphasize that the presence of the arts in education does not make the educational process, by itself, critical. What



matters are the ways the arts are worked and their goal, which is citizen participation through daily exercise. This is mainly done when the participation of the students in the decision-making processes and their active roll and of their communities in the artistic language, involved in the project in question, is guaranteed. In this sense, we understand the ideas of democracy and emancipation as proposed by Santos (1985), using the key notion of knowledge emancipation. For the author there is a permanent tension between individual individualistic subjectivity and direct and indirect regulatory citizenship and this tension “is only susceptible to overcoming if the relationship between subjectivity and citizenship occurs within the framework of emancipation and not, as heretofore, within the framework of regulation” (Santos, 1985, p.240).

In this perspective, three pedagogical experiences will be reported in the context of teacher training in the partial distance learning mode: art samples from the Nova Friburgo distance education center; Papier maché workshops and activities carried out in the schools occupied by students during a period of strike and demand of teachers of public schools for better working conditions in the State of Rio de Janeiro. All experiences took place between 2014 and 2016 and involved students from distance courses at the Rio de Janeiro State University (UERJ), which were part of extension projects and teaching initiation at the Nova regional center Freiburg, located in the mountainous region of Rio de Janeiro. These projects had an interdisciplinary character and were characterized by proposing a dialogue between the basic school, the university and the community, in a double way, thinking the knowledge “beyond the reduced sphere of cognitive-instrumental rationality and modern science”, As Oliveira points out (2008, p.11).

The theoretical / methodological / epistemological paths that were used were deeply inspired by the readings of Paulo Freire (1976, 1987, 1996), in the investigations in the daily life (Oliveira, Alves, 2001) and in the notes of the

anthropology of the sciences and of the techniques, or of the actor-network theory (Latour, 1994), that is to say, in an invitation to collective learning, practicing a pedagogy of autonomy by immersing oneself, with all the senses, in what we wanted to study.

### 3. Pedagogical experience

#### 3.1. The Art Samples of the Distance Education Center (EAD) of Nova Friburgo

The event “Sample of Arts” was designed and developed by students of the undergraduate courses of the EAD campus in Nova Friburgo, as part of the UERJ University Extension Project “Science and Culture are also done at a distance” (Pinho Jr et al. Al., 2014). This event had three editions (2014, 2015 and 2016) in which activities were proposed to ensure dialogue between the community, the university and the local art medium, relating science, art and citizenship.

It should be noted that, in all editions, the organizing committee was formed by volunteers who were graduates, secondary students from partner schools and local artists. The organizing committee did not have the function to select the works and presentations, since all the enrolled ones were accepted. For the announcement of the event social networks were used, advertisements on a local radio and also printed media in posters format. There was no budget of its own; all equipment, materials and means of dissemination were donated or rendered by artists and students. Entry and participation in the activities was free.

The first edition<sup>3</sup>, which took place from April 1 to 5, 2014, reached an audience of approximately 100 people who visited the exhibitions and participated in the following activities: visual arts exhibition, Ikebana workshop, didactic sculptures workshop with papier maché, stencil workshop, exhibition of posters related to science and art, poetic evening, musical performance and exhibi-



tion of the documentary “Forbidden Education” (Doin, 2012), with a later debate.

We sought the construction of knowledge and citizenship through dialogue between the different fields of human thought. The artistic presentations, workshops, academic works and debates resulting from these activities were used as complementary paths to achieve this objective, as Pinho Júnior, Lago and Lacerda (2014) point out.

During the event, an investigation was carried out, through a written questionnaire, in which it was possible to know how the participants related to the different artistic languages. The questionnaire was answered by 32 people.

The responses to the questionnaire indicated that music was the artistic modality with which the interviewees most related and practiced; music, theater and handicraft shows were the most cited as activities that they would like to see or practice at the Center. With this information, in later events it was possible to organize meetings that favored the artistic languages most cited by the participants of the research. The second edition<sup>4</sup>, which took place from 7 to 11 April 2015, reached an audience of approximately 240 people. There were exhibitions of visual arts and handicrafts; concerts of seven musical groups of the region; poetry, short stories, chronicle and prose readings; choir workshop; exhibition of short films produced in the region with the presence of producers and a debate on the production of audiovisual material as an educational medium, as well as talks relating the arts and teaching of school subjects. The workshop “Realistic Models in Biology using papier maché techniques”, taught by a student of the Bachelor’s Degree in Biological Sciences (Souza and Lacerda, 2015), is highlighted, inspired by the workshop carried out the previous year and which gave rise to the work “Workshops of papier maché”, carried out in public schools, and that will be reported later.

The third edition<sup>5</sup>, which took place from 20 to 24 September 2016, reached an audience of about 280 people. There were rap workshops,

stencil workshops on art and citizenship, circus performances, a debate on the use of circus art as an inclusive therapy for people with special abilities; a talk on braille and the inclusion of people with special needs; a photographic exhibition on rural culture, exhibitions of paintings and visual arts, musical performances, talks about music therapy and talks about the use of musical parodies in education. In this edition, in particular, there were profound debates about art as mediator in the social inclusion of groups that are often marginalized.

It was found that, when an activity is constructed horizontally and by self-management, as the experiences reported here, all those involved in its construction and execution exercise social skills that are fundamental for the exercise of citizenship: capacities for cooperation, collective decisions, of listening and being listened, of self-organization, of identifying and solving problems as a collective and of placing oneself in the place of the other; that is, otherness. In addition, developing a culture of collective action and cooperation on the basis of discussions brought by the community is a way of living a citizenship that is more active, less segregationist, more critical and less conformist; which can bring positive changes for the community and for society, in the knowledge-emancipation aspect proposed by Santos (1985), that is, in search of solidarity.

### 3.2. Papier maché workshops

Papier maché workshops were held in the 2015 school year, as part of the project to initiate teaching “The integration between science and art education in public schools in Nova Friburgo: theoretical/practical approaches in the Undergraduate degree courses “. The workshops were attended by about twenty students of the second year of secondary education of the João Babet State School, in the municipality of Nova Friburgo, RJ. They were between 15 and 18 years of age and the workshops were held during biology classes, with extra hours, in which the pre-



sence of students was optional and always with the supervision of the class teacher and the presence of the undergraduate university student of the teaching career.

Class follow-up was carried out in the period from July to September 2015, for two hours per week, during classes. This initial phase, which was the first contact between the university student and the students, was fundamental for the theorizing of methods and proposals. The university student used this time to become familiarized with the school environment, creating an interpersonal link with students and school officials, seeking to understand the community in the school environment. It was sought to identify the students' demands and expectations regarding the teaching process, related to the subject of biology that, in this segment of formal education, mainly addresses the study of the physiognomy, physiology and health of the human body. The most frequent doubts were identified and power relations were observed, in a perspective of "diving", that is, looking not only to see, but also to hear, to feel, to smell, following the actors/practitioners of the network studied in their School days (Oliveira and Alves, 2001). Based on the information acquired through the experience and dialogical involvement with the class, the experience was proposed, with a methodology that had as main objective to meet the demands and expectations of the class through the interrelation between the sciences, art and citizenship, focusing on the study of biology, specifically the physiognomy and physiology of the human body.

Initially, a debate was held where the class was free to express their expectations and indicate the ways in which they wanted to study that topic. In this dialogue, teacher, university student and students had the same right to speak. With the chairs in a circle, the one who raised his hand could speak, and the next speech would only begin when the previous person had finished. During the debate we discussed topics such as teaching biology, alternative ways of

studying biology relating arts and other fields of human thought, such as popular knowledge. As far as the curricular content in question was concerned, it was stated that they would like to see and touch the bones, organs, tissues they were studying. The main doubts, according to them, were related to decorating the names of "things", to understand the operation of microscopic structures, to understand the meaning of some "difficult words", etc.

During the debate came the idea of using papier maché to recreate the structures of study. A part of the students proposed the creation of guinea pigs for dissections, but this proposal was rejected by the majority and papier maché emerged as a substitute, based on the experience gained through the workshops carried out in the I and II arts shows mentioned above. Papier maché is a malleable mass made of crushed recycled paper, water and white rubber, which is part of Brazilian popular culture. It used to be a common game between children from the 80's and 90's, but it has been forgotten by the current generation. With the papier maché technique it is possible to produce solid, cheap and resistant sculptures, as reported by Souza and Lacerda (2015). These sculptures are called artistic representations, representative models or realistic models: the artistic representations are the result of the creativity of the students and the expression of their understanding on some subject addressed during the debates by a more artistic than scientific bias; the representative models are sculptures made to explain some process or structure, but in a didactic way, without concern with scales or appearance of what is represented and realistic models are models of organs, tissues, objects, beings and systems that seek to resemble to the maximum the real "objects".

Later the first papier maché workshop was given. Discussions were also held during the workshop on how to best represent the structure, functions, functioning of organs, diseases, etc. The class was divided into groups and some students preferred to work individually. Each group



or individual had complete freedom to decide what to build and each object demanded some research. Students were encouraged to work on the organs and systems they knew least or had the most doubts about. The trainee and class teacher answered the questions that emerged and indicated places of inquiry to solve the problems that arose. Books of physiognomy and anatomy, as well as sources on the internet were consulted.

At the end of the dynamics there were several sculptures that were placed to dry for a week to give continuity to the workshop. Only then was the painting done of the sculptures that could be: artistic, didactic or realistic. Each sculpture, after being finished, was presented to the class by groups of students and creators. Those involved talked about everything they discovered in the creation process and the concepts were discussed by the class.

In this educational process, the main objective is not the conclusion of the work, where the finished and painted models are obtained. The most relevant, from the pedagogical point of view, is the production process, where students interact with each other, agree, disagree, criticize, make and remake. Because it is during the process that they build knowledge and attribute meaning to what is being produced. And it is during this dialogical action of exchange, research and collective creation that they incorporate social skills that are part of the exercise of citizenship. If these processes were not given, during the presentation of the results, students would only reproduce speeches copied from the books or the internet, which did not happen. In explaining their models, each student used their own language, based on their experience, with all the metaphors and jargon they usually use when talking to each other. That is, they felt at ease to interact spontaneously and originally, building curriculum in their daily practice (Oliveira, 2012).

### 3.3. Activities in the occupied schools<sup>6</sup>

The omission of the voice of the students in the school environment, often perpetuated by the directions and by the government departments of education, is one of the reasons that led the students to occupy their schools in Brazil. The occupation of schools, which has been taking place since 2015, was influenced by movements similar to those that occurred in Chile in previous years. In São Paulo, for example, the more than 300 schools that were occupied in 2015 managed to defeat the education reform plan promoted by the government of Geraldo Alkmin, which aimed, among other things, at the closure of schools. In the occupations, the arts were very present; the documentary by Carlos Pronzato (2015) “Acabó la paz, eso aquí va a girar a Chile” portrays the struggle of the students of São Paulo and the presence of cultural and artistic manifestations during the occupations. In the State of Rio de Janeiro, during a period of strikes and assertion of rights of teachers in public schools for better working conditions, in 2016, students decided to occupy their schools, proposing to manage them through assemblies and debates of horizontal form. The occupations managed to mobilize a good part of society, and were supported by unions and social movements of various political inclinations. Through the occupations, the students held various workshops and open classes, both inside and outside the school space. They used social networks and other technologies for communication with other occupied schools and the mobilization of communities.

In this context, the realization of activities that interrelated arts, science and citizenship in the occupation of the state school Prof. Jamil El-Jaick (CEJE) in Nova Friburgo took place. Between April 18 and June 13, 2016, the activities of the occupation were monitored, such as debates, workshops, open classes and structural repairs. During this participation students, teachers, parents of students and visitors were interviewed. In their statements, the students affir-



med the necessity of new educational projects that were proposed taking into consideration their demands, result of the dialogue between the students and the school community. They were contrary to the educational models that are developed in a imposing and hierarchical manner, suppressing the spaces of exchange and participation of the students in the educational institutions.

This school is located in the center of the municipality of Nova Friburgo and receives students from all neighborhoods of the city because it is located in an accessible point near the shopping center. On that occasion, it had about a thousand students enrolled in series from the sixth year of initial education to the third year of secondary education. The occupation was described by several local newspapers, including the online newspaper G1 Región Serrana (2016).

During the occupation movement it was observed that the actions of the students presented, in the daily practice, many components present in the theoretical and epistemological approach that we defend. That is to say, the form of shared management, criticisms of the educational system and, especially, the workshops carried out during the occupation emphasized aspects that have been discussed by different authors regarding contemporary education and the interrelationship between science, art and citizenship. One of the students' proposals was for the school to become a space for popular culture and, for that; it would have to be open to the public, to the community. Students planned and prepared educational, artistic, and cultural activities that would appeal to the community within the school. In the voice of one of the students: "the space of the school is ours, but before the occupation we could do nothing here, just to obey, what we are doing now is to recover our place, we are giving a class in citizenship."

The experience in the Brazilian school occupations, especially in the CEJE, and the dialogue with students in struggle, corroborates the idea that they not only demand but require a

less centralized, more horizontal education with a focus on the formation of the citizenship. The occupations are the result of the organization of students with different ideologies, histories and cultures, unified for two reasons: the will to decide on the education itself and the need to fight for more appropriate structures in the educational institutions.

#### 4. Conclusions

The pedagogical experiences described in this paper exemplify changes that we consider necessary, mainly in relation to the relations of power within the study and formal teaching environments. Art or science education does not guarantee, alone or interrelated, the renewal of teaching practices or a better exercise of citizenship. What can trigger this renewal is the creation of situations where the actors are able to reach consensus through dialogue and collective action. When art is worked in a free manner and with the students as protagonists, their social realities are portrayed. There are many forms of knowledge underestimated by the scientific modernity and that need to be valued (Santos, 1985; Latour, 1994).

Oliveira (2008, p.12), says that educational and school conceptions and practices appear as particularly relevant, insofar as it can be understood that the school is a privileged space of social interaction; therefore, the formative experiences that involve the exchange of knowledge between the teachers of basic school, university, students and community is of fundamental importance in a proposal of epistemological transformation that looks for the freedom, the democratization and the decolonization of the knowledge and of power (Freire, 1976, Santos, 2005). A school that is ignored by the demands of its students and that prevents its protagonist role in the educational processes, will not contribute to the formation of subjects capable of understanding the political processes of the society in which they live.

In this way, we defend that universities, schools and their communities must maintain



a constant dialogue so that knowledge can flow between educational institutions and society, with art as a catalyst. The result tends to be the articulation of networks of cooperation and inter-locution that are of extreme importance for the emergence of initiatives that provide the exercise of citizenship.

To work science, art and citizenship, in an interrelated way, means to provide students with means with which they can dialogue with each other, organize themselves, express themselves individually and collectively. Citizenship is in collective action capable of changing, improving something and this can, and should, be with art. The different artistic languages can serve as expression for social causes, that is, the expectations expressed artistically by the students can guide a teaching that respects and develops their critical senses.

## Notes

1. The CEDERJ is a consortium among the public universities of the State of Rio de Janeiro, which seeks to offer distance graduation courses, especially undergraduate courses. See Lacerda and Saba (2015).
2. The expression here is being used in a progressive, plural, democratic and emancipatory sense proposed by Freire (1996) and Santos (1985).
3. I Mostra de Artes do polo EAD de Nova Friburgo: <https://polo-friburgo.wordpress.com/arquivo/2014-1o-semester/1a-mostra-de-artes-visuais-do-polo/>
4. II Mostra de Artes do polo EAD de Nova Friburgo: <https://polo-friburgo.wordpress.com/arquivo/2015-1-semester/ii-mostra-de-artes-polo-ead-nova-friburgo/>
5. III Mostra de Artes do polo EAD de Nova Friburgo: <https://polo-friburgo.wordpress.com/arquivo/2016-2o-semester/3a-mostra-de-artes-do-polo/>
6. "Acabó la paz, eso aqui va a girar a Chile".

## Bibliographical references

- Amaro, F. (2004). Apresentação. En Araujo-Jorge, T. C. *Ciência e Arte: encontros e sintonias* (p. 11). Rio de Janeiro: Editora Senac Rio.
- Bordieu, P. (1996). *Razões práticas: sobre a teoria da ação*. São Paulo: Papirus.
- Cambi, F. (1999). *História da pedagogia*. São Paulo: UNESP.
- Dal Ri, L. (2010). A construção da cidadania no Brasil: entre Império e Primeira República. Espaço Jurídico: *Journal of Law [EJL]*, 11(1), 7-36. Recuperado de <https://goo.gl/ST6jSA>
- Doin, G. (Director). (2012). *La educación prohibida* [Online]. Argentina: Eulam Producciones. Recuperado de <http://educacionprohibida.com/>
- Freire, P. (1976). *Ação cultural para a liberdade e outros escritos*. Rio de Janeiro: Paz e Terra.
- Freire, P. (1987). *Pedagogia do Oprimido*. Rio de Janeiro: Paz e Terra.
- Freire, P. (1996). *Pedagogia da Autonomia: saberes necessários à prática educativa*. São Paulo: Paz e Terra.
- Gadotti, M. (1992). *Escola cidadã*. São Paulo: Cortez.
- Gadotti, M. (1998). *História das ideias pedagógicas*. São Paulo: Ática.
- Gadotti, M. (2000). Perspectivas atuais da educação. *São Paulo em Perspectiva*, 14(2), 03-11. Recuperado de <https://goo.gl/HhdzB2>
- G1 Região Serrana (2016). *Alunos ocupam Colégio Estadual Professor Jamil El Jaick, em Friburgo*. Nova Friburgo: Intertv. Recuperado de <https://goo.gl/V9zYEM>
- Lacerda, F.K.D., & Saba, C.C.A.N. (2015). A inserção de estudantes EAD nos projetos de ensino, pesquisa e extensão da Universidade do Estado do Rio de Janeiro. En Souza, A.H. *et al.* (Org.), *Práticas de EAD nas Universidades Estaduais e Municipais do Brasil: cenários, experiências e reflexões* (pp. 197-204). Florianópolis: UDESC.
- Latour, B. (1994). *Jamais fomos modernos*. Rio de Janeiro: Nova Fronteira.
- McLuhan, H.M. (1996). *Os meios de comunicação como extensões do homem*. São Paulo: Cultrix.
- Oliveira, I.B. (2008). *Boaventura & a Educação*. Belo Horizonte: Autêntica.
- Oliveira, I.B. (2012). *O currículo como criação cotidiana*. Rio de Janeiro: FAPERJ.
- Oliveira, I.B., & Alves, N. (2001). *Pesquisa no/do cotidiano das escolas: sobre redes e saberes*. Rio de Janeiro: DP&A.
- Pinho Junior, S.R., Assis, P.S., Lacerda, F.K.D., & Oliveira, A.N. (2014). A extensão universitária em um polo de educação a distância: O caso



- de Nova Friburgo/RJ. *EaD em Foco*, 4(1), 100-111. Recuperado de <https://goo.gl/ve5B8C>
- Pinho Junior, S. R., Lago, M. R. L., & Lacerda F. K. D. (2014). A arte como forma de aumentar a integração entre um polo de educação a distância, seus estudantes e a comunidade. En: Anais da Exposição de Trabalhos Acadêmicos da Região Serrana (pp. 25-30). Nova Friburgo: ETARSERRA. Recuperado de <https://goo.gl/Pg313h>
- Ribeiro, M. (2002). Educação para a cidadania: questão colocada pelos movimentos sociais. *Educação e Pesquisa*, 28(2), 113-128. <https://doi.org/10.1590/S1517-97022002000200009>.
- Rocha, M. (2000). A questão cidadania na sociedade da informação. *Ciência da Informação*, 29(1), 40-45. <https://doi.org/10.18225/ci.inf.v29i1.897>.
- Rossi, D.F. (2012). Os caminhos do conhecimento. *Revista Organização Sistêmica*, 1(1), 9-23. Recuperado de <https://goo.gl/XbDi4o>
- Sabbatini, R.M.E. (2001). A Evolução da Inteligência Humana. *Revista Cérebro & Mente*, 12, 2-9. Universidade Estadual de Campinas. Recuperado de <https://goo.gl/STVHrp>
- Santos, B.S.(1985). *Um discurso sobre as ciências*. Porto: Afrontamento.
- Santos, B.S. (2005). *Semear outras soluções: os caminhos da diversidade e dos conhecimentos rivais*. Rio de Janeiro: Civilização Brasileira.
- Serres, M. (1992). *Éclaircissements apud Latour, B. Jamais fomos modernos*. Rio de Janeiro.
- Silva, R.R.D. (2014). Comunidades como espaços de intervenção pedagógica: um estudo da docência no ensino médio. *Rev. Bras. Educ.*, 19(59), 945-966. <https://doi.org/10.1590/S1413-24782014000900007>.
- Souza, M.D., & Lacerda, F.K.D. (2015). Ciência e arte na produção de modelos em papel machê para o ensino de biologia. *Revista Aproximando*, 1(2), 1-9. Recuperado de <https://goo.gl/7H5Lvg>

