

Triad of Work, Health, and Environment: An Educational proposal in remote learning

ABSTRACT

This article discusses the relationship of the triad Work, Health, and Environment through the lens of Critical Environmental Education within a Technical Occupational Safety course offered by the National Service for Learning (Senac). Its primary aim is to challenge the persistent separation between educational practice and concrete reality by addressing the triad's categories, demonstrating their interrelationship, and providing examples of how to work with them in the classroom. A group of students from the Technical Course was selected during the Covid-19 pandemic to implement a didactic sequence based on the problematization of socio-environmental crises. The qualitative methodology of participatory research was employed, analyzing an activity—the game "Biosafety and Pandemic Impacts Roulette"—from a suggested didactic sequence applied between December 2021 and January 2022. The activity proposed a critical approach, a theoretical pathway that particularly reflects on teaching practices in daily life while considering the severe socio-environmental crisis situations. As a result, students' arguments in favor of socio-environmental justice were observed, advocating for sustained investments to improve work, health, and education conditions.

KEYWORDS: Educational Practice. Critical Environmental Education. Occupational Safety Technician. Socio-Environmental Conflicts and Education.

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WORK, HEALTH, AND THE ENVIRONMENT: EDUCATIONAL PROPOSALS FOR TODAY AND THE POST-PANDEMIC HORIZON

All those interested in educational practice must, at some point, ask themselves: "What is educational practice?"

Tardif (2014)

This article arises from questions directly stemming from the teaching practices of the authors in a Technical Occupational Safety course during doctoral research at the Federal Institute of Rio de Janeiro (IFRJ). The research posed the following question: To what extent can educational practice address broader contemporary conflicts and issues within the school context and foster critical thinking in future professionals in the reality of remote learning?

It is assumed that schools should, in general, be characterized as spaces for teaching and learning processes and as producers of knowledge that go beyond the prescribed school curriculum. As spaces for the formation of present and future generations, schools play a decisive role in preparing individuals to enter the workforce. In this context, the approach of Critical Environmental Education (EA-Critical) is utilized, alongside the triad of Work, Health, and Environment, within an activity designed as part of a didactic sequence.

The research also drew upon a recurring representation: the duality in the relationship between humans and nature (DIEGUES, 2001). This study aims to challenge this representation, which is often associated with the separation between educational actions and real-world contexts. To do so, various concepts were explored to support this foundational debate. The interconnection of the concepts of Work, Health, and Environment is thus proposed as a framework for discussions on education, focusing on their interrelation and reflecting on educational actions within the school setting—especially during and after the 2020 pandemic experience.

Initially, the concepts of Work, Health, and Environment will be presented individually to later explore their interdependence. Following this, an educational practice will be introduced: the roulette game "Biosafety and Pandemic Impacts"—part of a didactic sequence applied between December 2021 and January 2022—aimed at assisting educators in the teaching process.

These concepts were revisited to grasp their structural essence. Only after this foundational understanding can an update be proposed that considers the challenges of the pandemic and the post-pandemic horizon. This approach acknowledges that no educational practice, nor the concepts underpinning it, can remain unaffected by such extreme material realities.

WORK: FROM THE ONTOLOGICAL CONCEPT TO ITS RELATIONSHIP WITH FORMAL EDUCATION

The concept of Work leads the discussion as it pertains to the direct action of human beings on their environment. It is defined by Saviani (2007, p. 154) as "the act of acting upon nature, transforming it according to human needs. It can be said that the essence of man is work." As an essence, work is a practice inherent to everyday life, encompassing interactions with the environment to obtain resources

for survival and social interactions aimed at objectives beyond immediate physical survival. This action, especially when considering all humanity, generates a reaction, resulting in varying degrees of impact on the biosphere.

Through work, individuals transform themselves and alter their social relationships. This process occurs across various spheres of society, including family, early social interactions, and the school setting. However, the school is also a space of social reproduction, an ideological apparatus of the state (SAVIANI, 2012), which may fail to be liberating for many participants. In this perspective, the school plays the role of a mechanism transmitting bourgeois ideology through educational practices, reinforcing class divisions (SAVIANI, 2012).

To avoid condemning the school, it is crucial to confront this contradiction and work in favor of the working class. One potential pathway is to foster a school environment that promotes independence, agency, and critical thinking, considering both students and teachers. Understanding the historical forms work has assumed (slavery, serfdom, wage labor, or others), as well as its derivatives, is as important as grasping its ontological essence. It is in its historical forms—formalized or not, precarious or not—that the concrete relationships between work, health, and the environment can be observed.

Including teaching methods about Work is essential, even in official documents such as the National Curriculum Parameters (PCN) (BRAZIL, 1998) and the National Common Curricular Base (BNCC) (BRAZIL, 2017). Although these documents do not fully embrace the most advanced perspectives on the subject (as proposed by authors like Saviani), they cannot ignore the topic—an element of contradiction! These documents emphasize the importance of developing didactic strategies that provide students with access to information, practical skills for building knowledge, and adaptability to existing work models (BRASIL, 1998). Examples of suggested topics include: the real working conditions in rural areas; urban issues such as unemployment, child and adolescent labor, inadequate or absent basic sanitation, and the informal economy. If desired, more current issues could be added to the 1998 document, such as gig work (e.g., Uberization), Individual Micro-Entrepreneurs (MEI), labor and tax reforms—proposals that can help cultivate critical and aware students who understand their reality. One fact remains: in the BNCC, the topic of Work continues to be addressed as a transversal theme (BRASIL, 2019).

HEALTH: FROM THE DIFFICULTIES OF CONCEPTUALIZATION TO ITS PRACTICAL APPLICATIONS

Throughout history, many concepts about health have been developed. According to Scliar (2007), the very understanding of health varies depending on the context and habits of a society. There were times when being sick was considered a magical act or something related to religion, as evidenced by research in the field of Paleontology (*Ibid.*). These beliefs can be observed through signs of illness in Egyptian mummies; both these and other peoples believed that "disease results from the action of external forces on the body, which enter it due to sin or curse" (*Ibid.*, p. 30).

The pursuit of health has always been of human interest, with attempts to control its different aspects, such as the use of general utensils to achieve balance,

the use of medicines, or the choice of certain types of foods, as well as in community living (COSTA; ROZENFELD, 2000). Thus, health has always been a concern for human beings, as the reflection of a healthy life enables people to successfully carry out their daily activities and seek happiness.

In 1948, the World Health Organization (WHO) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (SEGRE; FERRAZ, 1997, p. 539). It was noted that this definition does not fully clarify what "complete well-being" as guided by the WHO means. It is evident that this definition, as it stands today, is imprecise, having persisted for a long time. While it may serve as a broad horizon, it lacks explicit meaning for the development of public policies. Adhering to this definition may not lead to achieving "complete well-being" for an individual or even a community (SEGRE; FERRAZ, 1997).

The adopted concept goes beyond well-being, encompassing different spheres, including the ecological—such as the impact of human interaction with nature, in relation to toxic gas concentrations in the atmosphere, soil degradation, water scarcity, population growth, river, sea, and spring pollution, and increasing deforestation (RATTNER, 2010).

Nonetheless, the "state of complete well-being" defined by WHO is enshrined in the Universal Declaration of Human Rights in its Article 25:

Everyone has the right to a standard of living adequate for the health and well-being of themselves and their family, including food, clothing, housing, medical care, and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age, or other lack of livelihood in circumstances beyond their control (UNITED NATIONS [UN], 1948).

This passage advances by advocating for the material conditions necessary for health, even though it still ignores broader environmental factors. In a section of the Ottawa Charter, drafted at the First International Conference on Health Promotion, a more humanized perspective on health is found. The concept "emphasizes social and personal resources, as well as physical capabilities. Thus, health promotion is not the exclusive responsibility of the health sector, but goes beyond a healthy lifestyle, toward global well-being" (OTTAWA CHARTER, 1986, p. 1). Still, the view of health remains tied to "well-being," without clarifying which pathways an individual should follow to achieve this goal in their life.

Various conferences have been held to address global health issues. Among them, the 8th National Health Conference of 1986 (BRAZIL, 1986) stands out as a milestone. It formed the basis for the description of health conditions for the Brazilian population in the 1988 Federal Constitution. A passage from its report notes that:

[...] health is the result of conditions such as food, housing, education, income, environment, work, transportation, employment, leisure, freedom, land access and possession, and access to healthcare services. It is, above all, the outcome of the forms of social organization of production, which can generate significant inequalities in living standards (BRASIL, 1986, p. 4).

The 1988 Federal Constitution does not provide a clear definition of what health is but identifies those responsible for promoting it:

[...] health is the right of all and the duty of the State, guaranteed through social and economic policies aimed at reducing the risk of disease and other health issues, and ensuring universal and equal access to actions and services for its promotion, protection, and recovery (BRASIL, 1988, p. 153).

Thus, it is imperative to adopt a new perspective on the expanded concept of health. This will allow for the pursuit of balance, such as a healthy life, access to clean water, sustainability practices, food security, land distribution, housing, education, and gender equity (RAMIREZ-LANDEROS, 2018).

ENVIRONMENT: A SEARCH FOR SUSTAINABILITY

Environmental issues gained prominence starting in the 1970s. Since then, various ecological movements have emerged to consolidate the theme of defending environmental quality. Many countries have already joined in agreements and conferences to analyze and suggest guidelines and improvements in production processes that can help combat environmental decline (BOFF, 2012; CARVALHO, 2016; LOUREIRO, 2012).

Environmental Education (EE) has also strengthened as part of the responses and proposals to address the environmental problems that marked the environment at the time. Several events have occurred since then, proposing the extension of EE to schools, even in a transdisciplinary manner, to encourage behavioral or action changes among the population, with possible consequences, from a more critical perspective, for political leaders (CARVALHO, 2016; LOUREIRO, 2012).

However, the dialogue between educational practices in the school context and what happens outside of it has not effectively resulted in significant changes; in fact, this is one of the hypotheses adopted in this study.

There are as many types of EE as there are views on how it is or should develop in society. In a non-critical view, for example, environmental problems are typically blamed on individuals, as stated by Deluiz and Novicki (2004, p. 6). From this perspective, "[...] education is directed toward a 'behavioralist-individualist' ethics, which privileges individual performance, blaming individuals for their situation in the labor world [...] or for environmental degradation."

A slightly more advanced, yet still non-critical view of capitalist society results in an EE that at best criticizes what is evidently exaggerated in terms of environmental crimes but fails to see what is structural. The film "An Inconvenient Truth" is an example of this type of EE, where journalist, ecologist, politician, and former U.S. Vice President Al Gore plays a key role (AN INCONVENIENT TRUTH, 2007).

The film's main merit lies in showing that few changes have occurred on the planet regarding actions to prevent climate change, but it largely places the blame for degradation on poor political leaders and/or some greedy entrepreneurs, associating this to a lack of ecological awareness among the population. The film

does not offer criticism of the limits of the capitalist system itself due to its exploitative structure that exploits workers, commodifies all sectors, subjugates and degrades nature, generates wars, and confines democracy to the interests of economic groups. Since it does not reach this perspective, it only resorts to behavioralism directed at individuals, and at most, voluntary efforts from politicians sensitive to ecological issues (CARVALHO, 2016).

Conferences over the last four decades have shown that many proposals have been made, but little has been done to solve real problems. One of these proposals was Sustainable Development. The UN defines Sustainable Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UNITED NATIONS, 1987, p. 24).

However, why wait to take preventive actions considering only the future? Isn't that imprecise? Why not take actions for the present? This research proposes that the best path is to seek sustainable alternatives for the present. According to Boff (2012, p. 109), one of these alternatives would be to observe the "fulfillment of our human needs through the wise, measured, and sufficient use of the goods and services that the cosmos and Earth provide us." To achieve sustainability, a new perspective on the relationship with nature is necessary, which would lead to changes in global production and consumption habits, as well as a new sensitivity toward care among peoples and nations.

Environmental themes have gained ground in the school environment (this can be seen from the PCN). However, in schools, the theme is often addressed sporadically, especially during environmental events. In many cases, this practice reflects a reductionist pedagogical approach compared to the daily lives of students. According to Layrargues (2002), the most common themes include energy conservation, water consumption by the population, and recycling of PET bottles and/or cooking oil. "However, the content presents elements that may be seen as outdated, superficial, or ineffective in addressing environmental issues" (BOMFIM *et al.*, 2013, p. 35). The critique here is not only about the themes addressed, but a call for a revision of these themes and methods that could expand the work with them.

According to Loureiro (2012), working with a critical approach with students can help to awaken an emancipatory and autonomous outlook on the choices of actions that are interpreted as necessary for the environment. The suggestion of this research is that it is possible to rethink teaching practices, starting with Critical Environmental Education (EE-Critical). Through this path, the goal would be the emancipation of students, developing in them critical thinking, which would enable the perception of the exploitative system promoted by capitalism.

In this process, some practices that were once seen as necessary must be reconsidered, practices that today are known to further degrade the environment, such as mineral exploitation, agribusiness, and the exploitation of water resources. Thus, "the first step in constituting a more advanced 'Environmental Education (EE)' – which we will call 'Critical' – is not to remove its political-ideological content" (BOMFIM; PICCOLO, 2011, p. 185), in other words, to present a real worldview in educational practices, not just a temporary solution to a specific environmental issue.

THE EDUCATIONAL PROPOSAL ARISING FROM THE EXPECTED AND MARKED MEETING BETWEEN WORK, HEALTH, AND THE ENVIRONMENT FACING THE DECADENT STRUCTURE OF CAPITALIST SOCIETY

The meeting between Work, Health, and the Environment is an expected premise to stimulate critical thinking because, as we can see in the separate reflection of their own concepts, they are interconnected, both ontologically and in terms of their historical and formal context. The concepts not only intersect, but the existence of one explains (and is explained by) the other. Perhaps other authors would approach it differently, maybe starting with the concept of Environment, for example, claiming it precedes human Labor.

The issue here is the affiliation of this work to the critical perspective of Environmental Education (EE), indicating the direction for obtaining consistent reflection, considering the humanist aspect for both the Environment and Health. This does not neglect the relationship between Health and the Environment as fundamental for Work. Environmental issues only exist because humans exist, and humans produce culture in nature through the mediation of Work. This is not poetry, but materialist philosophy.

In this regard, it is worth noting that there is space to understand that the new intersections of Work, Health, and the Environment are not immune to the historical context, even though the concepts may persist over time. The forms of relations (epiphenomena) are certainly not immune to historical context. And even if the basic concept does not change, none of them can be explained apart from the events occurring in society.

If Work is the essence of humanity, as Saviani (2007) said, the act of extracting resources from the environment for survival, first for the healthy maintenance of one's corporeal materiality and surroundings, produces different collective forms of accomplishing and understanding it. Here lies the question: how is Work constituted now, and how will it continue to be constituted throughout history? The global capitalist society (pandemic and post-pandemic) that presents itself today should definitely undergo an evaluation.

This form of production, in recent decades, has heavily impacted nature, leaving most humans unable to sustain their lives in a healthy way, with exploitation so vile that only a small part of society is in a good condition while the majority faces a harsh and precarious life. The emergence of Covid-19, the major pandemic of the 21st century (are there risks of others?), as declared by the World Health Organization (WHO) in March 2020, seemed to be the first alarming episode of a system that flirts with collapse. The growing and limitless consumption appears to be the portrait of this global modern society so irrational that it seeks to consume the planet itself.

[...] this happens because the capitalist mode of production – whose driving force is profit – creates the imperative to produce and sell, on an increasing scale, not only products that improve human well-being, but also old "masked" products, or new products, designed to meet fictitious needs, or artificially created needs (COSTA; ROZENFELD, 2000, p. 16).

People are encouraged to buy things they don't need. As a result, individuals face a stockpile of trivial goods, rising expenses, the depletion of their economic

reserves, unemployment, new diseases, pandemics, etc. Behind all this cycle, we can see the consequences caused to the environment and to humanity itself. The scenario reveals (at least to those who want to see it) a lack of reason, at the very moment when everything is done to prevent this from being perceived. In other words, alienation is promoted.

The maintenance of all this is only sustained by a large system of repression, sometimes overtly, sometimes subtly, through control mechanisms. In this context, the school plays an important role with its students: to reveal, through its practical activities, that is, through its work, all this knowledge, bringing to light debates that can support the construction of justice that may reveal a new societal horizon.

UNION OF CONCEPTS IN AN EDUCATIONAL PRACTICE: A METHODOLOGICAL PATHWAY

For the proposed and carried-out activity, the qualitative methodology of participatory research was chosen. According to Brandão and Borges (2007), participatory research allows for active student participation in the teaching process and enables the integration of scientific knowledge with popular knowledge through critical reflection, recreating new knowledge. That is, it takes into account the protagonism of the student.

The action itself was carried out at an educational institution within the Sistema S, at the National Service for Commercial Learning (Senac), in a class of the Technical Course in Occupational Safety, consisting of twenty-six students, of whom seventeen are women and nine are men. All students are of legal age, with a significant portion—approximately seven students—already holding higher education degrees, such as physiotherapists, lawyers, environmental managers, administrators, and pedagogues. They are already part of the labor market and dedicate the evening shift to professional qualification in the technical course. The research involving human participants in this study is regulated by the Ethics Committee (5.717.615) with the CAAE number: 47635521.5.0000.5268, submitted on 10/07/2022.

The chosen proposal was the socio-environmental crisis triggered by the disaster of the pandemic in society, which also aligns with the theme covered in the students' curriculum journey, where Environmental Management was the main topic. It is important to note that the time allotted to develop the activity is at the discretion of the instructor, who should evaluate, based on the class profile, available resources, and context, how much time can be allocated. The data collection procedures used included students' productions, such as the roulette game itself and the mind map, based on the recording of the remote class application. For data analysis, the "free interpretation" approach was chosen (ANJOS; RÔÇAS; PEREIRA, 2019). Being "free" did not imply the absence of methodological criteria. These were developed based on the theoretical framework of the research.

Therefore, a pedagogical approach to work with the Work-Health-Environment triad with the critical approach of EE is to focus the lens on societal context issues, facts that can help in understanding the power struggles and the

hegemonic dominance surrounding human actions that may result in environmental disasters.

Here, an activity is presented that was part of a didactic sequence in the e-book on environmental disasters, that is, the educational product of the doctoral thesis entitled: “Large-Scale Socio-Environmental Disasters: Implications for the TST Course in Southeast Brazil 2011 to 2021.” The chosen didactic sequence is called “Biosafety and the Environmental Issue in the COVID-19 Pandemic,” focusing both on its consequences for the humans involved and the impacts on the natural environment. The activity analyzed in this article is the roulette game: Biosafety and Impacts in the Pandemic.

In general, this activity reveals the ways in which humans relate to nature, stemming from the reckless exploitation of raw materials with the sole purpose of mass production. The applied didactic sequence aims to:

- Assess the consequences of neglect regarding the use of personal protective equipment (PPE) and prophylactic practices in the workplace;
- Develop critical thinking about the importance of seeking socio-environmental justice within professional practice and the relationship between humans and nature.

Below is a table outlining the stages of the applied didactic sequence; however, only the activity of the roulette game “Biosafety and Impacts in the Pandemic” will be analyzed in this article.

Table 1 – Didactic Sequence: Biosafety and the Environmental Issue in the COVID-19 Pandemic

DATE	PROCEDURES
12/16/2021	<ul style="list-style-type: none"> • Presentation and justification of the didactic proposal to the students of the Technical Course in Occupational Safety; • Presentation of the objectives and outline of the didactic activity; • Reflection on the pandemic moment and changes in people's daily lives and the work environment.
12/21/2021	<ul style="list-style-type: none"> • Video: <ul style="list-style-type: none"> o Will social inequality increase due to the coronavirus pandemic? • Activity: <ul style="list-style-type: none"> o Brainstorming and debate.
01/11/2022	<ul style="list-style-type: none"> • Reading: <ul style="list-style-type: none"> o CIPA Magazine – Help during the crisis (p. 44); o Protective clothing and COVID-19 (p. 42); o CIPA's role (p. 28); o PPE in times of pandemic (p. 44). • Reflection activity: <ul style="list-style-type: none"> o Questions in the forum.
01/13/2022	<ul style="list-style-type: none"> • Game: <ul style="list-style-type: none"> o Crossword “Environment and Health”; • Video: <ul style="list-style-type: none"> o Environmental Impacts of the Pandemic; • Activity: <ul style="list-style-type: none"> o Video and game analysis.
01/18/2022	<ul style="list-style-type: none"> • Roulette game:

	<ul style="list-style-type: none"> o “Biosafety and Impacts in the Pandemic”; • Activity: o Debate on actions that affect the environment.
01/20/2022	<ul style="list-style-type: none"> • Final reflective activity: o Creation of Mind Map – “Lessons from the pandemic”; • Presentation of the map, final analysis, and feedback.

Source: Prepared by the authors (2022).

THE BIOSAFETY AND PANDEMIC IMPACTS ROULETTE GAME: RESULTS AND DISCUSSIONS

The didactic proposal of the roulette game was applied to the TST class on January 18, 2022, during a remote class on the *blackboard.com* platform. The objective was to encourage reflection on the socio-environmental impacts arising from the pandemic context. This activity is part of the didactic sequence “Biosafety and the Environmental Issue in the COVID-19 Pandemic,” which was applied to the class from December 16, 2021, to January 20, 2022.

The roulette game was created using *Microsoft PowerPoint*, with questions related to the consequences of the COVID-19 scenario for workers, especially those returning to in-person activities. The questions were based on the approach of Critical Environmental Education (EA-Crítica), combined with the triad of Work, Health, and Environment in which society is embedded. The game consists of a sequence of questions as shown in the image below:

Figure 1 – Image of the Roulette Game – Biosafety and Impacts in the Pandemic



Source: Prepared by the authors (2022).

The questions and actions described in the previous image of the roulette game are presented in the table below:

Table 2 – Questions: Presentation of the roulette game questions

QUESTIONS
<ul style="list-style-type: none"> • Earned a point and pass the turn; • Name 4 socio-environmental impacts; • How does EA-Crítica contribute to the prevention of impacts during the pandemic; • Comment on TST actions to minimize pandemic risks; • Ways of raising awareness and avoiding Fake News; • Lost one point and pass the turn; • Lose everything and sing a song; • Pass the turn; • Comment on the changes that occurred after the COVID-19 disaster; • What actions prevent social inequality during the pandemic.

Source: Prepared by the authors (2022).

During the remote class, the previous figure was presented to the students within the *blackboard.com* platform. The students were organized into groups and instructed that as each group participated in the game, answering the question correctly would earn them one point, while the group that did not answer correctly would lose a point and be required to perform a "penalty" suggested by the students themselves, such as singing, dancing, or telling a joke. The game started with four groups, which alternated in answering questions as the roulette wheel was spun, initiated by the instructor. When the roulette stopped, the group had 30 seconds to answer the question, or they would have to perform the penalty.

The students' participation was active and intense throughout the game, which was especially noteworthy given that it was a remote activity, where limitations are greater than in face-to-face encounters. However, the format of classes that include games helps to energize and stimulate student interaction. In this section, some of the standout responses from students regarding the game questions will be presented:

Table 3 – Highlighted responses: Students' answers during the game

Questions	Students' Responses
Comment on the changes that occurred after the COVID-19 disaster	<i>Increased improper disposal of biological waste, mainly masks and gloves on the streets; negligence from the population and government, which allows the generation of new variants of the virus.</i>
What are the forms of awareness and avoiding Fake News?	<i>Valuing science through the promotion of research initiatives; increasing access to education for the population</i>
How does EA-Critica contribute to the prevention of impacts during the pandemic?	<i>Expanding the debate on the social context in schools; investing in education, teachers' salaries; improving the curriculum of technical courses to broaden the discussion and better prepare teachers for these new conceptual perspectives.</i>

Source: Research data (2022).

According to the students, the pandemic goes beyond "sanitary issues, such as hygiene habits [...] it involves political issues" (LAYRARGUES, 2002, p. 25). Thus, it is possible that humanity will soon face new forms of endemic or pandemic diseases caused by the imbalance of the political-economic system of society.

In the students' understanding, during this period, the production of waste increased significantly, and its disposal occurred in a disorganized manner. Studies show that "65 billion plastic gloves are being discarded in the oceans" (FELISARDO; SANTOS, 2021, p. 33), in addition to thousands of disposable masks being indiscriminately thrown away, reinforcing the idea that humans are distancing themselves further from nature (DIEGUES, 2001).

As can be seen, the students' contribution in the roulette game was significant. Their responses reflect a critical awareness stemming from both their life experiences and the knowledge gained during the didactic sequence. It can be argued that the students were encouraged to develop critical thinking, and some even achieved it, as the reflection was intense, revealing, and in some cases, impactful regarding the current context, demonstrating the true harms suffered by society, both from the destruction caused by the COVID-19 virus and from the neglect of public authorities.

It is concluded that the students' opinions refer to the dismantling of resources for education, dignified work, environmental investment, and health in Brazil. While the information about the current context was being unveiled, the students contributed ideas on how society could change its model to mitigate these impacts. Regarding schools, it is noticeable that the teaching staff struggles daily with the minimum resources to achieve the maximum, without the ideal material conditions to develop the educational process, nor with Critical Environmental Education (EA), especially the proposed Critical EA.

FINAL CONSIDERATIONS

Educational proposals are not exhausted by the examples presented; from them, educators can recreate others with different outcomes. It is important to involve students in the stages of the proposal, creation, and execution. The aim of this work was to demonstrate the possibilities that allow for active participation and student protagonism in developing critical thinking. These activities should include motivating actions that encourage the student to be the subject of the teaching-learning process. As a result, they will have a much more playful education, with a greater possibility of acquiring knowledge based on different foundations, including affective ones, that can be carried into their lives.

Although educational practice is a daily action in schools, it is essential to emphasize that the individuals involved in this teaching-learning process must be considered. There are contexts and people not confined to the classroom, as typically occurs in traditional teaching. The educator does not work alone. Issues related to task execution must be taken into account, such as the availability of resources, possible costs for activity realization, the socio-environmental context of the community, the choice of theme, student protagonism during the pedagogical action, challenges in the surroundings and research locations (violence, family values), etc.

Acting from the critical approach of Environmental Education, allied with the triad Work-Health-Environment, enables the integration of contents that were previously seen separately. Different teaching methods can be used to develop educational practices, especially in a Technical Course, where knowledge will be essential for professional practice. The educator must evaluate what best fits the

existing material conditions and the reality (and interests) of the students, without forgetting to align their teaching practice with the institution's pedagogical project.

This research advocates for a position, throughout the pedagogical process, that contributes to the development of critical thinking, with a student who is the protagonist of their learning, where the observation and critical analysis of data obtained through human action on nature—such as in socio-environmental disasters—take place. In this way, students can understand the possibility of participating in society's imperative decisions and exercising their citizenship.

TRÍADE TRABALHO, SAÚDE E MEIO AMBIENTE: PROPOSTA EDUCATIVA NO ENSINO REMOTO

RESUMO

O presente artigo versa sobre a relação da tríade Trabalho, Saúde e Meio Ambiente, a partir da abordagem da Educação Ambiental Crítica, em um curso Técnico em Segurança do Trabalho do Serviço Nacional de Aprendizagem (Senac). Tem como principal objetivo questionar a persistente separação entre a prática educativa e a realidade concreta, mediante as categorias da tríade, demonstrando a interrelação entre elas, bem como exemplos de como trabalhá-las em sala de aula. Elegeram-se uma turma do Curso Técnico, durante a pandemia da Covid-19, para a realização de uma sequência didática que parte da problematização de crises socioambientais. Foi utilizada a metodologia qualitativa da pesquisa participante, com a análise de uma atividade – o jogo da roleta Biossegurança e impactos na Pandemia – de uma sequência didática sugerida, aplicada entre dezembro de 2021 e janeiro de 2022. A atividade propôs uma abordagem crítica, um caminho teórico que reflete especialmente sobre a prática docente em seu cotidiano, considerando as graves situações de crise socioambiental. Como resultado, observa-se a argumentação dos estudantes a favor da justiça socioambiental, mediante a manutenção de investimentos dos fomentos para a melhoria do trabalho, da saúde e da educação.

PALAVRAS-CHAVE: Prática Educativa. Educação Ambiental Crítica. Técnico em Segurança do Trabalho. Conflitos Socioambientais e Educação.

NOTE

1 The profession of Occupational Safety Technician (TST) was regulated in 1985 by Law No. 7,410 and further complemented by Ordinance No. 3,275/1989 of the Ministry of Labor, which defines their duties. One notable action performed by this professional is highlighted in item III of Article 1 of this ordinance: “to analyze work methods and processes and identify risk factors for work accidents, occupational diseases, and work-related illnesses, as well as the presence of environmental agents harmful to workers, proposing their elimination or control” (BRASIL, 2010, p. 724).

2 According to Ciavatta (2004, p. 46-47), the concept of the “world or worlds of work [...] encompasses both material, productive activities and the processes of cultural creation generated around the reproduction of life. This evokes the complex universe which, through much simplification, we reduce to one of its apparent forms, such as the profession, the product of work, or labor activities, without paying attention to the complexity of the social relations underlying these actions” (CIAVATTA, 2004, p. 46-47).

3 The theory of the school as an Ideological State Apparatus was formulated by Althusser in his work, where he surveyed these apparatuses, distinguishing between repressive and ideological ones. Examples of ideological apparatuses include systems of various churches, systems of different schools, numerous political parties, among others. Repressive apparatuses, on the other hand, include “administration, the military, the police, courts, prisons, etc.” (SAVIANI, 2012, p. 21).

4 The scope of this research does not directly address the themes of the PCNs (National Curriculum Parameters), which are referenced to support the argument of this article. It is worth noting that numerous studies criticized the transversal theme “Work” in the 1998 document. Thus, the purpose of revisiting it was not to romanticize it but to present it as it was introduced, considering its historical context and the predominant understanding of the documents of that period. Nonetheless, including the transversal theme of Work was important as it at least enabled more critical teachers to utilize it in classrooms in ways more favorable to workers themselves (cf. BOMFIM *et al.*, 2013).

5 It is possible to argue that the WHO’s concept of health is imprecise, but when leaders like Brazil’s President Jair Bolsonaro and the United States’ President Donald Trump handled the pandemic (in 2020) as they did, the concept proposed by the WHO would already seem like an unattainable ideal.

6 The new SARS-CoV-2 virus, which causes COVID-19, was identified in Wuhan Province, China, in December 2019. By March of the following year, the World Health Organization (WHO) declared it a pandemic (BORGES; MARQUES, 2020; DANTAS; TORIBIO, 2020; QUINTELLA *et al.*, 2020).

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Received: Aug. 23rd, 2023.

Approved: Dec. 18th, 2024.

DOI: 10.3895/rbect.v18n1.15881

How to cite: NASCIMENTO, P. M. P.; BOMFIM, A. M. Triad of Work, Health, and Environment: An Educational proposal in remote learning. **Brazilian Journal of Science Teaching and Technology**, Ponta Grossa, v.18, p. 1-19, 2025. Available at: <<https://periodicos.utfpr.edu.br/rbect/article/view/15881>>. Access on: XXX.

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