

DOSSIER “Human development, drama and perezhivania:
Vygotsky and the question of the psychology of the actor’s creation”^{1 2}

**The Madalenas Laboratory – Theater of the Oppressed
and the contributions of Lev Vygotsky and Augusto Boal:
intertwining art and life^{3 4 5 6}**

*O Laboratório Madalenas – Teatro das Oprimidas
e as contribuições de Lev Vygotsky e Augusto Boal:
entrelaçamento da arte com a vida*

Ribeiro, Adriana Barbosa ⁽ⁱ⁾

Zanella, Andréa Vieira ⁽ⁱⁱ⁾

⁽ⁱ⁾ Instituto Federal de Educação, Ciência e Tecnologia do Amapá - IFAP, Macapá, AP, Brasil. <https://orcid.org/0000-0002-6725-3104>, adriana.ribeiro@ifap.edu.br

⁽ⁱⁱ⁾ Universidade Federal de Santa Catarina – UFSC, Programa de Pós-Graduação em Psicologia, Florianópolis, SC, Brasil. <https://orcid.org/0000-0001-8949-0605>, avzanella@gmail.com

¹ For more information, please see: Vygotski (2023).

² Thematic Dossier organized by Priscila Nascimento Marques <<https://orcid.org/0000-0002-7111-6372>> and Ana Luiza Bustamante Smolka <<https://orcid.org/0000-0002-2064-3391>> .

³ Responsible editor: César Donizetti Pereira Leite. <<https://orcid.org/0000-0001-8889-750X>>

⁴ References correction and bibliographic normalization services: Piero Younan Kanaan (Tikinet) <piero.kanaan@tikinet.com.br>

⁵ English version: Carolina Vanso (Tikinet) <traducao@tikinet.com.br>

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Abstract

This article establishes dialogues between the Madalenas Laboratory - Theater of the Oppressed (LM-T@) and Lev S. Vygotsky and Augusto Boal's writings on art. Creative processes are fundamental to the Theater of the Oppressed practices insofar as they encourage scene experience and imagining possibilities of change in oppressive situations, increasing the participants' repertoire of action and calling upon them to create transformative social relationships. Information was collected by participation in LM-T@ activities, which were registered in a field diary and analyzed in dialogue with participants' publications and the writings of Vygotsky and Boal.

Keywords: art and life, creation processes, Vygotsky, Augusto Boal, Theater of the Oppressed

Resumo

Este artigo tem por objetivo estabelecer diálogos entre o Laboratório Madalenas - Teatro das Oprimidas (LM-T@) e os escritos sobre arte desenvolvidos por Lev S. Vygotsky e Augusto Boal. Compreende-se que processos de criação são fundamentais para as práticas do Teatro das Oprimidas, na medida em que incentivam vivenciar cenicamente e imaginar possibilidades de mudanças em situações opressivas, aumentando o repertório de ação das participantes e convocando-os para a criação de relações sociais transformadoras. A participação em atividades do LM-T@ foi a estratégia metodológica utilizada para a produção de informações para a pesquisa, as quais foram registradas em diário de campo e analisadas em diálogo com publicações de participantes desses grupos e os escritos de Vygotsky e Boal.

Palavras-chave: arte e vida, processos de criação, Vygotsky, Augusto Boal, Teatro do Oprimido

Introduction

This paper discusses experiences carried out at the Madalenas Laboratory – Theater of the Oppressed (LM-T@⁷), created by Bárbara Santos and Alessandra Vannuci in the intertwining between life and art. In the interrelations between the concepts of imagination, creative process and the relations between art and life developed by Lev Semionovitch Vygotsky⁸ and Augusto Boal.

Several thinkers, especially philosophers such as Aristotle, Nietzsche, Bakhtin, Rancière, have focused their discussion on art and life and their interrelations. In psychology, the contributions of Lev S. Vygotsky, a Belarusian author who developed a vast written production outlined by interdisciplinary interests that dialogue with areas such as pedagogy, philosophy, psychology, arts, defectology, and literature, stand out (Capucci & Silva, 2018). Among his themes of research, Vygotsky investigated imagination and creative processes, as well as the role played by esthetic experience arising from artistic enjoyment for subjectivation. These discussions appear in writings such as *The Psychology of Art* (Vygotsky, 1925/1999a), *Imagination and Creativity in Childhood* (Vygotsky, 1930/2009), the chapter Esthetic Education in *Educational Psychology* (Vygotsky, 1924/2001), and the set of texts organized and translated by Priscila Marques (2022) in the book entitled *Liev S. Vygotsky: escritos sobre arte*. Although art, particularly theater, have been explored since the author's first writings, as attested by the publication of *The Tragedy of Hamlet, Prince of Denmark* (Vygotsky, 1916/1999b), his work on art has only been further investigated in recent decades (Capucci, 2017; Marques, 2018; Wedekin & Zanella, 2013, 2016).

Vygotsky seeks to understand the link between art and subjectivation in their relations with being-in-the-world (*dasein*) and becoming, stating that “esthetic experience creates a very tangible environment for subsequent actions and, of course, never transpired without leaving some trace that manifests itself in our behavior later on” (Vygotsky, 1924/2001, p. 341). Thus, Vygotsky's studies bring art and psychology closer together, conceiving the tragedy of human

⁷ We will use the acronym T@ as a textual resource to differentiate it from Boal's Theater of the Oppressed (TO), although theater director Barbara Santos (2019) does not use them in her writings.

⁸ Russian scholar Lev Semenovich Vygotsky's (1896-1934) surname has many different spellings, for example: Vygotsky, Vigotsky, Vygotski, Vigotski, among others. We shall adopt the 'Vygotsky' spelling in this work, except for references and direct quotations, which will preserve the spelling used in the original text.

life⁹ as foundational in the constitution of a person, inexorably amalgamated with the social conditions in which they live:

for Vygotsky, the order, hierarchy and relationships between psychological functions—such as thought and desire—change according to the social positions that subjects occupy. The psyche is thus constituted in a way that is intrinsically related to the concrete conditions of life and existence of the subjects and forms of organization of human social relations. (Magiolino, 2014, p. 50)

Within aesthetic experience, those who relate to a work of art participate in its recreation through updating, negating and transforming meanings. This labor is a secondarily creative synthesis (Vygotsky, 1924/2001), a shared creative process in which each spectator's esthetic apprehension of the artwork constitutes the basis for its transformation and reworking. Artists and spectators are thus intertwined in a movement to construct their own art, in which the anonymous collectivity of which they are part and actively participate is inexorably present. Of fundamental importance in Vygotsky's perspective, this character underpins his argument that "art is the social within us, and even if its action is performed by a single individual, it does not mean that its essence is individual. . . The social also exists where there is only one person with his individual experiences and tribulations" (Vygotsky, 1925/1999, p. 315).

Like Vygotsky (1930/2009), the Brazilian playwright and director Augusto Boal also intertwines art and life, understanding that through art ordinary people, elevated to the status of social actors, can transform aspects of their own existence and that of the groups to which they belong. His creative and artistic process led him to develop the Theater of the Oppressed (TO), which is known internationally and has many branches around the world. Boal's TO and its questionings and debates served as inspiration for the Madalenas Laboratory – Theater of the Oppressed, which we will discuss below.

To better explain TO, its creator and systematizer proposed the metaphor of a tree, which is nourished by ethics and solidarity. At its base is the aesthetics of the oppressed, with images, words and sounds as the roots; games and exercises make up the trunk together with Image Theater and Forum Theater; other techniques (newspaper theater, invisible theater,

⁹ On the drama of existence, see: Vigotski (1916/1999), Cappuci (2017); Magiolino (2014); Magiolino and Smolka (2013); Delari Junior (2011).

rainbow of desire and legislative theater) are represented as branches stemming from these and culminating at concrete and continuous social actions. The bird represents the multiplication and organization of jokers (TO multipliers, mobilizers and articulators), who continue to spread the methodology (Boal, 2002, 2005, 2009, 2019; Santos, 2016). Instead of a single way of making theater, TO encompasses various theatrical and artistic techniques by which its participants investigate, create and present artistic processes that address the oppressions they experience. For Boal, “by making theater, we learn to see what jumps out at us, but which we are incapable of seeing because we are so used to just looking”¹⁰ (Boal, 2017, p. 16).

In line with Vygotsky’s arguments (1925/1999; 1924/2001; 1930/2009), TO believes that everyone is capable of imagining, creating and producing art. By sharing the means of artistic production, TO multipliers expand the possibility of acting and reworking one’s own existence with art, as long as one’s is open to entering the scene.

By putting significant situations of social life on stage, TO provokes reflection and invites people to create versions capable of multiplying what is experienced rather than reducing it; expanding the production of new meanings for both actors and spectators. Such process is related to *perezhivanie*, a Russian term used by Vygotsky and translated into Portuguese as “vivência” [experience or lived experience]¹¹, which refers to “a modality of experience arising from a concrete situation, for which certain subjective attitudes are formed, correlated to personal particularities” (Delari Jr. & Passos, 2009, p. 13). These experiences open up possibilities for imagining changes to reality, encouraging the actors to problematize the social context in which they are inserted and to forge their own stories.

Boal’s games and exercises have this objective and are a way for people who wish to participate in TO to become part of the theatrical action (Boal, 2005, 2009, 2019), without any previous artistic experience, which makes it accessible to different audiences. These activities invite participants to imagine and represent alternatives to the social problems played out on stage, which are often naturalized and conceived as having no way out. Hence, games and

¹⁰ Excerpt from the speech Boal gave upon being named World Ambassador for Theatre by the United Nations Educational, Scientific and Cultural Organization (UNESCO) on March 27, 2009.

¹¹ Discussions around the translation of *perezhivanie* as well as the differences between experience and living for Vygotski have occupied contemporary authors working with his legacy. We understand the importance of these discussions, but we have chosen not to explore it in this article. For more information, see Capucci and Silva (2018); Delari Jr. and Passos (2009); González Rey (2016); Roberti (2019).

exercises are the foundations for all forms of TO and through them participants can stimulate their bodies, affections, desires, imaginative and creative processes.

Around the world, jokers, i.e., multipliers trained in the fundamentals of TO, continue to bring groups together, proposing meetings, discussions, artistic productions and theatrical performances (Santos, 2016). Consequently, creative processes continue to take place not only in the groups, but in the TO itself, which is updated with issues arising from intersectional agendas of gender, race, class, territory, empowerment, among others brought by the participants to be problematized on stage. If art is a human right, it should be available to the whole community, regardless of audience or participants.

Marias do Brasil group, which addresses the rights of domestic workers in employer relations (Monteiro, 2019); Cor do Brasil, which problematizes structural racism (Conceição, 2017); GTO-Maputo, in Mozambique, which centers HIV-AIDS-related issues (Cossa, 2010) and Jana Sanskriti, in West Bengal, India, which develops issues related to exploitation of labor (Ganguly, 2010) are examples of this process of multiplication. The groups present problems according to their regions, populations and social reality, highlighting issues that are related to their lives, seeking to make visible, express and debate situations of oppression and injustice experienced on a daily basis through art.

In this article, we will explore a proposal that, based on TO, adds other theoretical-practical elements for reflection and artistic action: LM-T@, an esthetic-artistic experience for women conceived by the artistic director and consultant of the Center for the Theater of the Oppressed Center¹² (CTO), Bárbara Santos, and the theater director, Alessandra Vannucci. Our starting point for discussing the creative processes and esthetic experiences promoted by the T@ groups will be the presentation of the LM-T@ proposal (Santos, 2019; Santos & Vannucci, 2010) and its developments in dialogue with the discussions presented by Vygotsky and Boal.

Creative and imaginative processes are fundamental to the esthetic-artistic practices in the Theater of the Oppressed, as they encourage scenically experiencing changes in oppressive situations, increasing the participants' repertoire of action and calling for the creation of new meanings that present themselves as the foundation for transforming these situations. Analyzing

¹² The Center for the Theater of the Oppressed is located in the Lapa district of Rio de Janeiro, and is one of the spaces where TO is disseminated, researched and multiplied.

these processes with the help of Vygotsky's contributions offers LM-T@ the possibility of having a theoretical framework that can contribute to building one of its own. In turn, issues raised by LM-T@ can contribute to updating this author's legacy in view of important issues for the times we live in.

Method

By taking the Theater of the Oppressed as a theme-field (Spink, 2003) of research¹³, we sought to approach some Rio de Janeiro-based TO groups that esthetically investigate gender-specific oppressions. Through games, techniques and exercises, these groups verify the potentialities, differences, oppositions and similarities that gender can represent or perform (Butler, 2018) socially, historically and culturally.

Data collection took place from July to August 2019 through observant participation (Peruzzo, 2017; Wacquant, 2002) in the groups' activities, all recorded in a field diary. We also analyzed the academic and/or literary writings of the Madalenas, name given to the participants in the Theatre of the Oppressed (Ribeiro & Zanella, 2020; Santos, 2019).

By analyzing these authorial productions, in addition to the interviews, we place the participants as producers of the knowledge being systematized in this article. This methodological choice emphasizes the knowledge production that occurs when researching with the other (Moraes, 2010), in this case with other producers of knowledge, which implies not taking the other

as the "target" of our interventions. It is not a question of taking the other person as a respondent, a subject who responds to the researcher's interventions. On the contrary, the promising misunderstanding heralds new versions of what the other can do, that is, it announces that the other we are questioning is an expert... (Moraes, 2010, p. 30)

As such, we conducted a bibliographical survey of the participants' productions that discusses the esthetic experiences at the Madalenas Laboratory, as well as in the Theater of the Oppressed. In addition to the publications by Bárbara Santos (2019) and Alessandra Vannucci

¹³ This article presents part of the results of the first author's doctoral research in psychology, co-supervised by the second author.

(Santos & Vannucci, 2010, Vannucci, 2014), we also analyzed the works by the joker and artistic-methodological referent of the Ma(g)dalena International Network, Cláudia Simone dos Santos Oliveira (Oliveira, 2019); the jokers of the Madalenas Anastácias Collective and participants in the Cor do Brasil group, Rachel Nascimento da Rocha (2019), Carol Netto (2017) and the Madalenas Laboratory participant and joker Gabriela Chiari (2016).

This set of materials will be analyzed and compared with Vygotsky's discussions that highlight the power of art and the importance of esthetic experiences, namely: *The Psychology of Art* (Vygotsky, 1925/1999), *Imagination and Creativity in Childhood* (Vygotsky, 1930/2009), the chapter *Esthetic Education* (Vygotsky, 1924/2001) and the recently translated *On the Problem of the Psychology of the Actor's Creative Work* (Vygostky, 1932/2023).

The Madalenas Laboratory – the seed for the Theater of the Oppressed

The Madalenas Laboratory was born in December 2009 from two groups, both located in Rio de Janeiro, one made up of women domestic workers, from the Marias do Brasil Group, and the other of CTO jokers. These first labs were facilitated by theater director Alessandra Vannucci and the artistic director and CTO coordinator at the time, Bárbara Santos. Starting in January 2010, at least four laboratories will take place in Ceará, Rio de Janeiro, as well as Guinea-Bissau and Mozambique. LM-T@'s pedagogical proposal is mainly based on Boal's Theater of the Oppressed, but not exclusively. According to its creators, the *theater laboratory* format asserts its character of an experimental process under construction (Santos, 2019; Boal, 2000). The proposal was part of the Award for Aesthetic Interactions and Artistic Residencies at Culture Centers, awarded to Alessandra Vannucci by the Ministry of Culture – National Arts Foundation (Funarte) and which had the CTO, coordinated by Bárbara Santos, as a partner for its realization.

The field diary entry summarizes what we were able to understand about LM-T@ by listening to the participants:

one of the TO multipliers, when talking about the Madalenas Laboratory, says that it is an aesthetic-artistic experience built *by/with/for* women¹⁴, artists of the stage and of life, willing to write or (re)invent another story for themselves and for all women. (Relato, CTO, 18 jul. 2019)

Women's body and individual and collective experience, including their expectations, implications, oppressions and revolutions are the focus of LM-T@. In an artistic investigation, we look for elements in the participants' experiences of oppression that can be shared and put on stage to create alternatives for confronting and building possibilities to overcome these social oppressions (Santos, 2019).

In LM-T@, the female body becomes the starting point for observing social controls, as well as physical and symbolic experiences and their effects. As Santos says, this is

a body that needs to be under the control of church and state. A body that is subject to public debate, even in its intimacy: hair removal, weight, menstruation, forms of procreation, abortion... a body that often does not dare to know itself or come out of itself. (Santos, 2019, p. 79)

In the relationship between the female body and everyday life, LM-T@ establishes certain acts that allow a process of deeper investigation into ancestry, social, symbolic and cultural relations that constitute the female gender as a being-in-the-world. Santos (2019) proposes dividing the laboratory into five acts: 1 - Inherited Images; 2 - Reinforced Images; 3 - Embodied Images; 4 - Questioned Images; 5 - Images to be Constructed¹⁵.

The first act—Inherited Images—relates to the historical process of constructing the concept of woman. These images can be presented consciously or unconsciously, recalling elements of ancestry and the myths on which society was founded, which ratify patriarchal views. Scenically working with these images provides an opportunity to questioning: how do these elements still influence women? What messages do they convey? What is implied by these original myths and legends?

¹⁴ Women mean all people who are socially recognized as female.

¹⁵ All five acts are described in detail by Bárbara Santos (2019) in the book *Teatro das Oprimidas*, where the author recounts the process that led to the creation of the Laboratory and Theater of the Oppressed. In this article, I will summarize the main elements. For further information, see: Santos (2019); Santos and Vannucci (2010) and Chiari (2016).

The second act establishes the Reinforced Images that dialogue with the concepts crystallized by socialization, which make up the social and cultural context that constitutes being a woman. At this moment we verify the elements that point in directions to follow, ways of behaving, stereotypes of beauty and success, ideas of right and wrong, to scenically investigate: what are the prevailing social views on women? How do the participants feel about these social views? What images do they have about themselves?

In the third act, Embodied Images, we investigate self-conceptions, self-image and the image we seek to reflect socially. Participants are asked: how does each woman perceive herself socially? How do you relate to your body? Do you question the image you have of yourself? Can we discover and include other models? Can I see myself in other women's images? According to Santos, this act seeks to expose "that the construction of self-image takes place through socialization and is influenced by the desire to please, to be accepted, to meet other people's expectations" (2019, p. 81).

By presenting the images of participants' interpretations of oppressions, social pitfalls and the repetition of naturalized actions, the fourth act, named Demechanizing Women, aims to investigate how the socially constructed imaginary acts and affects the concrete life of each woman to understand the operating mechanisms behind the oppression. Participants are thus asked: do I recognize that the oppressions I experience are also experienced by other women? What do these situations have in common? What maintains certain structures of oppression?

The fifth act proposes Images to be Constructed. Focused on synthesizing what has been developed to produce a Forum Theatre (FT) piece with the question-theme proposed by the group, it goes back to the productions made during the laboratory, looking for connections between each one of them and the oppression to be represented. Understanding the question on which the play is based is related to all the structural issues worked on during the lab. As Bárbara Santos (2019, p. 111) states, it is "a process of Asceticism. Artistic production should be the result of a process and not a final-day creation." She also emphasizes that it is an open-ended, unfinished work, so as to establish relationships with the audience and invite them into the debate.

Reflecting on this process, Vannucci (2014) states that the word act has a double function:

by experiencing the four acts that foster intimate and analytical actions (such as writing poetry, declarations of identity, dancing children's gestures, drawing and painting with their eyes closed, producing installations and improvising performances, and others), the Madalenas produce a final relational, political Act, whose function is to interfere in the regime of visibility and share our questions, challenges and desires for transformation. (Vannucci, 2014, pp. 3-4)

Each act is made up of ethical-esthetic-political elements that are expressed objectively and subjectively during the process of experimenting with these artistic experiences. The investigations conducted throughout the LM-T@ process generates a variety of artistic products that constitute a political (po)ethics. This esthetic journey weaves a reflection on the multiplicity of women, bringing together what they have in common and identifying their differences and particularities. It is an artistic process that allows the participants to express their desires, fears and powers, as shown in an excerpt from *O cordel para Madalena*, written by Glécia Lima (2010, p. 120), one of the Madalenas (CE).

Women, Madalenas,/ Read with utmost devotion/ Such humble verses/ But full of emotion/ With each passing day/ Our struggle persists/ Many women have fallen/ In these damned conflicts/ Many of us were victims/ Of the male and brute force/ To all Madalenas/ I want here to show/ A most feminine rhyme/ For us to evaluate/ Our important role/ In this world that needs to change... (Lima, 2010, p. 120)

Although brief, the description given here of the five acts summarizes the complete version of the LM-T@. In the course of the experiments over the ten years of the lab's existence, in dialogue with the knowledge accumulated over five decades of TO's work, adaptations were made to account for the time available, the possibilities of the group and the territory. In other words, at some point acts had to be condense; at others, exercises were removed or adapted to recall local creative narratives (Santos, 2019).

Esthetic experiences resonate differently among LM-T@ participants, creating unique meanings that can be collectivized with the group, not necessarily through words. Which was experienced by taking part in the international arts residency:

a visceral experience because it is felt in the body and expressed without words, but with bodily gestures and sounds. In several moments of the workshop, words were used only to guide the activities. (Relato, 24 jul. 2019)

By making the affections caused to the body part of the process, since artistic expression is created in relation to full subjective bodily expression, the record presented brings us back to the monistic ideas of Baruch Spinoza (1632-1677), for whom we exist, in turn, in the capacity of our body to affect and be affected in every encounter with another body. These relationships can increase or decrease the potency of individuals and collectives in each meeting.

According to Gabriela Chiari (2016, p. 89), participant and researcher at LM-T@, the “scene and character building exercises associated with Theatre of the Oppressed techniques encourage participants to recognize and unveil their oppressions and, especially, to analyze their attitudes within them.”

The improvisation games, scene and esthetic exercises, as well as theatrical techniques, invite the women to try their hand at occupying other places and positions in the face of the experienced oppressions and thus share with the other participants their reflections, doubts, questions and possible resolutions, both for the scene and for their own realities. This collective movement highlights the importance of group practice which, according to Elaine Pereira and Bader Sawaia, “can and should provoke dissonance, noise, reflection, produce openings for new affectations. Transforming reality requires the presence of free, living, and reflective subjects” (2020, p. 24).

Another LM-T@ researcher and multiplier, Rachel Nascimento da Rocha (2019), brings up the experience of the Madalena-Anastácia Laboratory, carried out only with black women, to establish the intersectional discussion of race and gender: “as (or because I am) a black woman, I felt that something was missing and, after a mixed gender laboratory, the need for a space to reflect on gender and race through and intersectional lens became even more apparent” (Rocha, 2019, p. 73).

The research carried out by Rocha and other authors allows us to understand that LM-T@ allows to share questions, problematizations, doubts, propositions, memories of what has been experienced, which can be externalized through imaginative and creative processes, but none of this happens without accessing some of the pain that makes up the life stories of the participating women. An aspect highlighted by Cláudia Simone, a black woman, a joker in the Theatre of the Oppressed and a member of the Ma(g)dalenas Network:

The Madalena Laboratory is divided into acts that provoke reflection, trigger research, reveal subjectivities and drive activism. It was in one of these moments that I was able to see an essential part of my life story. In the *Ancestral Route*, exercise in which we reproduce the movements of our grandmother, go back to the great-grandmother and continue until we find our ancestral origins, I discovered a lack of knowledge that I was not aware of. (Oliveira, 2019, pp. 65-66)

During esthetic investigation, the women answer questions through their bodies, imagine stories and access memories. By using their bodies, they can investigate on themselves and discover the potency of the encounter with the group, but they can also access subjective pain and ethical-political suffering¹⁶ (Sawaia, 1999). But what can be done with these findings?

Spinoza (1667/2017, p. 89) states that “that of which the body is capable has not yet been determined”, a phrase with which Vygotsky concludes his book *The Psychology of Art*. According to the philosopher’s postulate, reaffirmed by Vygotsky, the human body can be affected in many ways and through these affections the power to act is increased or decreased. Investing in women’s power to act is a constant in LM-T@’s activities, which produces effects such as the one reported by Cláudia Simone de Oliveira:

That day in the laboratory, Madalena opened the door to Anastácia. I could no longer be Madalena without talking about racism, without touching on our differences, without talking about our specificities, without considering our diversity. My identity was beginning to change from Madalena to Anastácia, in an attempt to understand my place in the world and within a Ma(g)dalena network. (Oliveira, 2019, p. 68)

By reworking her definition of Madalena to Anastasia, the joker constitutes another meaning for herself, which is closer to the representation with which she identifies. While Maria Madalena [Mary Magdalene] is a Christian reference that oscillates between the symbolism of a saint or a prostitute with white features, Anastácia, according to historical records, was the name given to a black African woman who was enslaved in Brazil and condemned to wear an iron mask tied behind her head and around her neck. She became a strong symbol of the fight against racism and sexism.

¹⁶ According to Bader Sawaia (1999), ethical-political suffering is the suffering that results from social injustices by generating feelings of humiliation, worthlessness and subjugation in people.

Faced with the demand from black women to experience a laboratory that articulated gender and race, the Madalena-Anastácia Laboratory was created in 2015. The invitation was open to black women who were interested in aesthetically investigating their experiences in a structurally racist and sexist society. Anastácia's insouciance becomes an inspiration for these women, who call themselves activists¹⁷, to put themselves in the shoes of those investigating their ethical-political sufferings, then confront the oppressions they experience and theatrically question other women and men about their stances on relevant black social issues. In this regard, the symbols of (re)existence and representativeness are important for the recognition of LM-T@ participants, as has already been discussed by black feminist movements that highlight the importance of intersectionality in the discussions proposed by different women's groups (Carneiro, 2003, 2011; hooks, 2019)

In short: through LM-T@, various women's/feminist groups emerged that began to present themselves as the Theater of the Oppressed. These experiences have been developed in various countries such as Brazil, Guinea Bissau, Mozambique, Portugal, Germany, Austria, India, Spain, Argentina, Switzerland, Uruguay, Nepal and other parts of the world, especially Latin America and Europe (Santos, 2019). To maintain dialogue and enable the exchange of creative/production and multiplication processes, the Ma(g)dalenas International Network was set up¹⁸, linking the groups spread across various countries in the Americas, Europe and Africa.

The many theatrical groups existing around the world attest to the expansion of the Madalenas Laboratory and, consequently, the multiplication of T@ groups just over ten years. In addition to territorial diversity, the multiplicity of women who relate to each other by gender add other intersectional elements such as race, class, sexual orientation, territoriality, immigration, ableism, among others. These elements intersect and need to be considered to become part of the themes on stage; they become the content of experimentation to be worked on during the creative processes, for by investigating the oppressions experienced by the participants theatrically, we can see how these intersections affect certain groups of women. The Madalenas Anastácias Collective is one of the LM-T@ groups that problematizes the articulations of oppressions between gender and race in its productions. In the play *Nega ou*

¹⁷ Neologism that combines art and activism

¹⁸ For more information, visit the website Teatro das Oprimidas - Rede Ma(g)dalenas Internacional. See: <https://teatrodelasoprimidas.org/>

Negra, they challenge the objectification of women, particularly black women, and the rape culture present in Brazilian music lyrics, problematizing sexist and racist logics (Netto, 2017). Another group is Madalenas Rio, who investigates expressions of sexist violence that affect women's bodies throughout their lives in their play "Se essa rua fosse minha" (Rocha, 2019; Rede Mada(g)dalenas, 2021).

Madalenas Laboratory – Theater of the Oppressed and Vygotsky's writings

Madalenas Laboratory – Theater of the Oppressed (LM-T@) brings together women from various backgrounds (social activists, students, self-employed professionals, housewives) who despite not necessarily being familiar with theater go on stage, responding to the statement made by Boal (2009) and reiterated by Santos (2019) that we are all artists. They thus broaden the definition of artist to one who can develop a creative activity, an aspect that, for Vygotsky (1930/2009) and contemporary researchers working with his legacy (Maheirie et al, 2015; Pino, 2006; Sawaia, 2009; Zanella, 2017; among others), characterizes being human. Encouraging creative activity, a specifically human activity which, through imagination, allows us to rework the meanings of the past and thus transform the present, with a view to the future (Vygotsky, 1930/2009), can be thought of as an affirmation of what is most human about us, since we all have the ability to create in different ways.

In this regard, the artistic and collective processes in LM-T@, i.e., all the activities carried out by the groups to create a theatrical performance, are just as important to the participants as the final products. This statement does not disregard the results of the theatrical work, that is, the spectacle that will be staged as part of the artistic production; rather it emphasizes a careful look at the creative processes, since they are interwoven with the questions, doubts, reflections and dialogues that take place during the exercises, games and theatrical techniques for the collective production of the play and character composition. Subsequently, this process is expanded during forum theater or image theater shows, in which these questions are put to the audience, creating a dialogue with the spect-actors¹⁹.

¹⁹ Term used in TO for all those who leave the audience and join the theatrical action (Boal, 2009).

Vygotsky devoted important writings to Theater. He draws on his experience as a spectator and appreciator of theater to develop what he calls a reader's critique, considering that "once the work of art is created, it is separated from its author, it is just a possibility that the reader realizes" (Vygotsky, 1916/1999, p. 19). When talking about esthetic education, he points out the importance of games for the development of imagination, which may also apply to theatrical games. In games one "is always creatively transforming reality. During a game, people and things readily assume new meanings. A chair does not just represent a train, a horse, or a house, but actually participates in the game as such" (Vygotsky, 1924/2001, p. 354). Playing with the senses, inventing other ways of using objects, modifying the social places incorporated into lived situations, creating new forms of expression, are all activities that allow us to expand our imagination and broaden our creative possibilities. This also happens in LM-T@: the proposed activities enable its participants to observe the situations in which they find themselves immersed, attributing new meanings to them and imagining possibilities for transformation; they encourage experimentation with inherited, reinforced and embodied images, so that they become questioned and (de)constructed images.

In his study of imagination and creativity, Vygotsky (1930/2009) established four ways in which imagination is associated with reality, which are interconnected and influence each other reciprocally. The first type of association stems from the fact that imagination is based on elements taken from reality, from a person's lived experience. Even the most fantastical ideas, such as those in legends, tales, dreams, for example, are ultimately extracted from reality and transformed by imagination: "the creative activity of the imagination depends directly on the richness and variety of a person's previous experience because this experience provides the material from which the products of fantasy are constructed" (Vygotsky, 1930/2009, p. 24).

The second type of linkage proposes that experience is based on imagination, allowing one's experience to be broadened by another person's narration and description. When conceiving a historical narrative, for example, a person borrow elements from imagination to produce it, so that "he is not limited to the narrow circle and narrow boundaries of his own experience but can venture far beyond these boundaries, assimilating, with the help of his imagination someone else's historical or social experience" (Vygotsky, 1930/2009, p. 25). In this sense, imagination serves our experience to conceive reality.

Vygotsky points to a double, mutual dependence between imagination and experience: if, in the first case, imagination is based on experience, in the second case experience itself is based on imagination. This concept is connected to the first and second acts of LM-T@, since they borrow Inherited and Reinforced Images.

The third type of association is an emotional one—which Vygotsky defines as the law of emotional reality, due to its influence on imagination. When watching a play, for example, both the plot, the setting and the characters' characterization can evoke different feelings, such as astonishment, sadness, disgust, contentment, repulsion, in those who embrace this esthetic experience. For Vygotsky, “the passions and fates of imaginary characters, their joys and sorrows move, disturb, and excite us, despite the fact that we know these are not real events, but rather the products of fantasy” (Vygotsky, 1930/2009, p. 28).

Finally, the fourth and last type of association posits that a construct of fantasy substantially new, once externally embodied, that is, given material form, can become an additional element in reality.

Interestingly, if we analyze the creative processes used in LM-T@'s acts and the relation with the types of association presented by Vygotsky, we can make some rapprochements. The first type highlights the influence experience over imagination, which can be associated with the LM-T@ acts referring to Reinforced Images and Embodied Images. In both the second (Reinforced Images) and third acts (Embodied Images), the participants access crystallized sociocultural experiences and integrate them with the elements of the imaginative activity which, in some order, can constitute their subjective aspects.

The second type can be related to the first act of the laboratory called Inherited Images, which accesses the creation myths and historical references of the ancestors. In this act, the participants try to relive their ancestral stories imagetically and then reflect on how they influence the reality they experience socially, considering that these products of the imagination consist of elements from reality transformed and re-elaborated. Another aspect worth highlighting is that the narrative made by other members throughout the process helps to broaden the individual experience, as it allows them to assimilate aspects of someone else's experience.

The third type of association speaks of how imagination is influenced by affective elements, which draws attention to the power of the image in action and the emotion it provokes. This can be associated with the fourth act: Questioned Images, in which participants try to understand how the images presented in the media and in the social imaginary subjectively influence the participants, i.e., what emotions are evoked when observing certain representations.

The fourth type addresses the product of the embodied imagination, which is related to the fifth act, Images to be Constructed, in which members are encouraged to develop an artistic production such as a forum theater, to debate with other people and expand collective production. Hence, the embodied imagination is returned to reality, “but returned as a new active force with the potential to alter that reality” (Vygotsky, 1930/2009, p. 30).

Importantly, the acts of the laboratory relate to the four types of association on various levels and that the rapprochements made highlight characteristics, but throughout the creative activity these associations are interrelated. In the case of LM-T@, the participants’ daily experiences emerge as the material collected from life, with which they are provoked to tension the established reality and reinvent their own existence, both on and off stage. And through games and exercises they can, individually and collectively, produce something new with what was, in many cases, so familiar in their lives. Themes related to their experiences as women restricted and subjugated by patriarchal situations subsidize the composition of improvised scenes mediated by the joker.

However, even though the productions are inspired by the participants’ life stories, they are configured as theatrical action, i.e., creativity and imagination build the play’s dramaturgy, leading the group to imagine different ways of translating their lived experience onto the stage. This is another important point in Vygotsky’s discussions on art, which to a certain extent seems to present itself in the necessary construction of a play in LM-T@: the understanding that

art’s true nature is that of transubstantiation, something that transcends ordinary feelings; for the fear, pain, or excitement caused by art includes something above and beyond its normal, conventional content. This “something” overcomes feelings of fear and pain, changes water into wine, and thus fulfills the most important purpose of art. (Vygotsky, 1925/2022, p. 311)

In turn, Vygotsky (1932/2023) points out that stage experiences “comprise a part of the complex function of the artistic work that has a definite social, class function.” The LM-T@ adds the social marker of gender; the Madalena-Anastácia Laboratory, the marker of race, both of which are fundamental insofar as stage experiences enable women to problematize their own conditions in the world by analyzing their own existence. This possibility of unfolding oneself, on stage, with audience participation and the joker’s mediation, supports and helps to build possible directions for action. It is a device for producing other meanings, for broadening horizons and building alternatives that can be transferred from the stage to the sphere of life, which is what drives the creative cycle as envisioned by Vygotsky. The relationship between the participants and the art they produce implies a process of producing meanings driven by the situations experienced—created, rehearsed, staged, recreated—and which are interconnected in their constitution as acting subjects (Maheirie et al., 2015).

In LM-T@, the participating women are the protagonists of their own existences, collectively weaving plots together, connecting personal and collective histories with the social determinants that institute them. Boal (2009) states that, through theatrical action, human beings discover that they can observe themselves, see themselves in action, see themselves in a situation. When they see themselves, they realize what they are and what they are not, they imagine what they could be, they discover where they can go: human beings are capable of looking at themselves in an imaginary mirror. It is therefore understood that the “process of creation is based on seeing, reviewing, revising—looking in all directions, at the visible and the invisible; remembering, imagining and projecting (un)known and (im)possible scenarios” (Zanella, 2013, p. 39).

Thinking about LM-T@ therefore implies reflecting on art and its power to transform the subject and the context in which they live. For Vygotsky (1925/1999, p. 307), “art’s true nature is that of transubstantiation.” Artistic activity, regardless of the language used, cuts out parts of reality, recombines them through imagination and returns it in another form.

For both LM-T@ and Vygotsky, therefore, the transformative process of art is directly related to creative activity and the production of something new, as “art takes its material from life, but gives in return something which its material did not contain” (Vygotsky, 1925/1999, p. 308). The power of art to mediate this fundamentally creative relationship with life is common

to both Boal and Bárbara Santos' perspectives, as well as Vygotsky's, as "art complements life by expanding its possibilities" (Vygotsky, 1925/1999, p. 313).

Final considerations

This research allowed us to understand the fruitful dialog between the perspectives of Vygotsky, Boal and LM-T@. Relations between art and life, the understanding of the inevitable connection between imagination and creative processes is fundamental both for the 20th-century Belarusian author and for the Brazilian playwright and the laboratories that continue to reinvent his legacy, such as LM-T@. By affirming art as an enabler of imagination and of creative processes that can push people to create other meanings for their existence, they contribute to the processes of social transformation towards dignified ways of life for everyone.

Investigation of the oppressions experienced by the participants and the processes of creating characters and scenes are constant in LM-T@. By turning them into a play, the participants create other possibilities for the characters and for themselves. Theater productions, on the other hand, also have the power to affect the audience, who can both watch and participate in the scenes.

Art in LM-T@ expresses significant and urgent aspects of the participants' lives, bringing to the fore memories, recollections and individual, collective and ethical-political suffering. In turn, artistic experimentation of these sufferings, whether as a protagonist or as a spect-actor, enables the transformation of feelings as advocated by Vygotsky (1916/1999), a condition for expanding the action repertoire of those who put themselves on stage and, consequently, their ways of accessing and perceiving the world. This also happens to those who have an intense experience with these women's art, for as Vygotsky's (1924/2001) states, an esthetic experience never transpires without leaving some trace.

Although women's groups are not exclusive to TO, creation through gender specificity, highlighted in LM-T@, can broaden reflection and strengthen important discussions by confronting patriarchal values. They help to generate a responsive attitude to the reality presented and to build strategies for confronting the oppressions experienced.

Finally, like Vygotsky and Boal, we talk about power and opening up to other possibilities of existence without placing art in a salvationist or utilitarian horizon. Our

discussion is based on the importance of creative and imaginative processes for subjectivation and the strengthening of collective practices. As discussed in cultural-historical psychology, the subject is constituted through an always unfinished process, being an expression of the way in which they socially apprehend and singularize the meanings that found and build the context in which they live. Thus, transforming the social circumstances presented requires a reflective subject who questions these circumstances, who problematizes the limiting reality that imposes needs on them to collectively imagine another possible world and fight for its construction.

References

- Boal, A. (2000). *Hamlet e o filho do padeiro: memórias imaginadas*. Record.
- Boal, A. (2002). *Arco-íris do desejo: o método Boal de teatro e terapia*. Civilização Brasileira.
- Boal, A. (2005). *Jogos para atores e não-atores*. Civilização Brasileira.
- Boal, A. (2009). *Estética do Oprimido*. Garamond.
- Boal, A. (2017). Discurso na Unesco. In A. Zanetti, & I. Almada (Orgs.), *Augusto Boal: embaixador do teatro brasileiro* (pp. 15-16). Mundo Contemporâneo.
- Boal, A. (2019). *Teatro do Oprimido e outras poéticas políticas*. Editora 34.
- Butler, J. (2018). *Problemas de gênero: Feminismo e subversão da identidade*. Civilização Brasileira.
- Capucci, R. R., & Silva, D. N. H. (2017). Quando Vida E Arte Se Encontram: Um Diálogo Entre Vigotski E Stanislavski. *Psicologia Em Estudo*, 22(3), 409. <https://doi.org/10.4025/psicolestud.v22i3.35869>
- Capucci, R. R., & Silva, D. N. H. (2018). “Ser ou não ser”: a perejivanie do ator nos estudos de L.S. Vigotski. *Estudos de Psicologia (Campinas)*, 35(4), 351-362. <https://doi.org/10.1590/1982-02752018000400003>
- Carneiro, S. (2003). Mulheres em Movimento. *Estudos avançados*, 14(49), 117-132.
- Carneiro, S. (2011, 6 de março). *Enegrecer o Feminismo: a situação da mulher negra na América Latina a partir de uma perspectiva de gênero*. Portal Geledés. <https://www.geledes.org.br/enegrecer-o-feminismo-situacao-da-mulher-negra-na-america-latina-partir-de-uma-perspectiva-de-genero/>

- Conceição, A. S. (2017). *Cor dos Oprimidos: o Teatro do Oprimido como resistência, ação e reflexão frente ao racismo* [Dissertação de Mestrado, Centro Federal de Educação Tecnológico Celso Suckow da Fonseca]. <https://docplayer.com.br/175534166-Centro-federal-de-educacao-tecnologica-celso-suckow-da-fonseca-cefet-rj-campus-maracana-programa-de-pos-graduacao-em-relacoes-etnico-raciais-pprer.html>.
- Cossa, A. (2010). O Teatro e a prevenção do HIV/SIDA. *Revista Metaxis*, 6, 50-53.
- Chiari, G. (2016). Laboratório Madalenas. Teatro das Oprimidas. In C. Mattos et al. (Orgs.), *Teatro do Oprimido e Universidade: experimentos, ensaios e investigações* (pp. 89-144). Metanoia.
- Delari Jr, A. (2011). Sentidos do Drama na perspectiva de Vigotski: um diálogo no limiar entre arte e psicologia. *Psicologia em Estudo*, 16(2), 181-197. <http://www.vigotski.net/>
- Delari Jr., A., & Passos, I. V. B. (2009) *Alguns sentidos da palavra “perezhivanie” em Vigotski: notas para estudo futuro junto à psicologia russa* [Apresentação de seminário]. III Seminário Interno do Grupo de Pesquisa Pensamentos e Linguagem, Campinas, São Paulo, Brasil.
- Hooks, B. (2019). *Teoria feminista: da margem ao centro*. (R. Patriota, Trad.). Perspectiva.
- Ganguly, S. (2010). Aprendendo com as pessoas. *Revista Metaxis*, 6, 18-21.
- González Rey, F. (2016). Vygotsky's Concept of Perezhivanie in The Psychology of Art and at the Final Moment of His Work: Advancing His Legacy. *Mind, Culture, and Activity*, 23(4), 305-314. <https://doi.org/10.1080/10749039.2016.1186196>
- Lima, G. (2010) Um cordel para Madalena. *Revista Metaxis*, 6, 120-121.
- Magiolino, L. L. S. (2014). A significação das emoções no processo de organização dramática do psiquismo e de constituição social do sujeito. *Psicologia & Sociedade*, 26(spe2), 48-59.
- Magiolino, L. L. S., & Smolka, A. L. B. (2013). How do emotions signify? Social relations and psychological functions in the dramatic constitution of subjects. *Mind, Culture and Activity*, 20, 96-112.
- Maheirie, K., Smolka, A. L. B., Strappazzon, A. L., Carvalho, C. S., & Massaro, F. K. (2015). Imaginação e processos de criação na perspectiva histórico-cultural: análise de uma experiência. *Estudos de Psicologia (Campinas)*, 32(1), 49–61. <https://doi.org/10.1590/0103-166X2015000100005>

- Marques, P. (2018). O “jovem” Vygótski: inéditos sobre arte e o papel da criação artística no desenvolvimento infantil. *Educação e Pesquisa*, 44, 1–15. <https://doi.org/10.1590/s1678-4634201844183267>
- Marques, P. (2022). *Liev S. Vigotski: escritos sobre arte. Organização, tradução e notas*. Mireveja.
- Monteiro, M. I. (2019). Trabalhadora Doméstica. *Revista Metaxis*, 9, 73-75.
- Moraes, M. (2010). PesquisarCOM: política ontológica e deficiência visual. In: M. Moraes, & V. Kastrup (Orgs.), *Exercícios de ver e não ver: arte e pesquisa com pessoas com deficiência visual*. Nau.
- Netto, C. A. F. (2017). *Madalena-Anastácia: uma investigação cênica de mulheres negras no Teatro das Oprimidas* [Apresentação de trabalho]. 13º Mundos de Mulheres & Fazendo Gênero 11: Transformações, Conexões, Deslocamentos, Florianópolis, Santa Catarina, Brasil.
- Oliveira, C. S. S. (2019). De Madalena à Anastácia. In B. Santos. *Teatro das Oprimidas: estéticas feministas para poéticas políticas* (pp. 64-77). Casa Philos.
- Peruzzo, C. M. K. (2017). Pressupostos epistemológicos e metodológicos da pesquisa participativa: da observação participante à pesquisa-ação. *Estudios sobre las Culturas Contemporáneas*, 23(3), 161-190.
- Pereira, E., & Sawaia, B. B. (2020). *Práticas grupais: espaço de diálogo e potência*. Pedro & João.
- Pino, A. (2006). A produção imaginária e a formação do sentido estético. Reflexões úteis para uma educação humana. *Pro-Posições*, 17 (2), 47-70. <https://periodicos.sbu.unicamp.br/ojs/index.php/proposic/article/view/8643628>.
- Ribeiro, A. B., & Zanella, A. V. (2020). Corpo/cidade: marcas e tensões de um cortejo artístico de rua. In A. V. Zanella (Org.), *Arte e Cidade, Memória e experiência* (pp. 63-81). EDUFPI.
- Roberti, D. L. P. (2019). Um olhar sobre a “vivência” através do seu autor: conceitos e traduções na obra de Vigotski. *Fractal. Revista Psicologia*, 31(1), 16-19.
- Rocha, R. N. (2019). *Cor das oprimidas: Coletivo Madalena Anastácia como movimento feminista negro educador* [Dissertação de Mestrado, Centro Federal de Educação Tecnológica Celso Suckow da Fonseca]. http://dippg.cefet-rj.br/pprer/attachments/article/81/135_Rachel%20Nascimento%20da%20Rocha.pdf
- Santos, B. (2016). *Teatro do Oprimido: Raízes e asas – uma teoria da práxis*. Ibis Libris.

- Santos, B. (2019). *Teatro das Oprimidas: estéticas feministas para poéticas políticas*. Casa Philos.
- Santos, B., & Vannucci, A. (2010, 6 de agosto). *Laboratório Madalenas Teatro das Oprimidas*. Red Ma(g)dalena Internacional. <http://redmagdalena.blogspot.com/>.
- Sawaia, B. B. (1999) O sofrimento ético-político como categoria de análise da dialética exclusão/inclusão. In B. B. Sawaia. *As artimanhas da exclusão: análise psicossocial e ética da desigualdade social*. Vozes.
- Sawaia, B. B. (2009). Psicologia e desigualdade social: uma reflexão sobre liberdade e transformação social. *Psicologia & Sociedade*, 21(3), 364-372. <https://www.scielo.br/j/psoc/a/SNXmnP85p4XsKmsrWgbgtpr/?lang=pt>
- Spink, P. K. (2003). Pesquisa de campo em psicologia social: uma perspectiva pós-construcionista. *Psicologia & Sociedade*, 15(2), 18-42. <https://doi.org/10.1590/s0102-71822003000200003>
- Spinoza, B. (2017). *Ética* (T. Tadeu, trad.). Autêntica. (Trabalho original publicado em 1677).
- Vannucci, A. (2014). Madalena e as outras. Um laboratório estético dedicado ao corpo feminino. In A. Vannucci. *Corpo em contexto*. Scriptum.
- Vygotski, L. S. (2023). Sobre a questão da psicologia da criação pelo ator. (P.N. Marques, Trad.). *Pro-Posições*, 34, ed0020210085. <http://dx.doi.org/10.1590/1980-6248-2021-0085> (Original work published 1936).
- Vygotsky, L. S. (1999a). *Psicologia da Arte* (P. Bezerra, Trad.). Martins Fontes. (Trabalho original publicado em 1925)
- Vygotsky, L. S. (1999b). *A tragédia de Hamlet, príncipe da Dinamarca* (P. Bezerra, Trad.). Martins Fontes. (Trabalho original publicado em 1916)
- Vygotsky, L. S. (2001). A Educação Estética. In L. S. Vygotski. *Psicologia Pedagógica* (P. Bezerra, Trad., pp. 323-378). Martins Fontes. (Trabalho original publicado em 1924)
- Vygotsky, L. S. (2009). *Imaginação e criação na infância: ensaio psicológico: livro para professores* (Z. Prestes, Trad.). Ática. (Trabalho original publicado em 1930)
- Vygotsky, L. S. (2022). Psicologia da Arte. In P. Marques. *Liev S. Vygotski: escritos sobre arte. Organização, tradução e notas*. Mireveja. (Trabalho original publicado em 1925)

Zanella, A. V. (2013). *Perguntar, registrar, escrever: inquietações metodológicas*. Editora da UFRGS.

Zanella, A. V. (2017). *Entre Galerias e Museus: Diálogos metodológicos no encontro da Arte com a Ciência e a Vida*. Pedro & João.

Wacquant, L. (2002). *Corpo e alma: notas etnográficas de um aprendiz de boxe*. Relume Dumará.

Wedekin, L. M., & Zanella, A. V. (2016). L. S. Vigotski e o ensino de arte: “A educação estética” (1926) e as escolas de arte na Rússia 1917-1930. *Pro-Posições*, 27(2), 155-176. <https://doi.org/10.1590/1980-6248-2014-0124>

Wedekin, L. M., & Zanella, A. V. (2013). Arte e vida em Vigotski e o modernismo russo. *Psicologia em Estudo*, 18(4), 689-699. <https://doi.org/10.1590/S1413-73722013000400011>.

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Corresponding author:

Ribeiro, Adriana: Instituto Federal do Amapá – IFAP, Campus Macapá, Rodovia BR-210, Km 03, S/n, 68909-398, Brasil Novo, Macapá, AP, Brasil.

Authors' contributions:

Ribeiro, Adriana: *Conceptualization (Lead), Research (Lead), Writing – original draft (Lead).*

Zanella, Andrea: *Conceptualization (Support), Writing – proofreading and editing (Support).*