Educommunication: the algorithmic flipsides and communicative reconfigurations in the school context

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Abstract: This article analyzes the influence of algorithms in the school context. Numerical protocols and predictive systems on the internet have reconfigured the cultural fabric. Consequently, school dynamics are traversed by symbolic codes circulating within platforms mediated by algorithmic logics such as Instagram, TikTok, and YouTube. Based on fieldwork conducted in the southern periphery of São Paulo, we systematize evidence that demonstrates the entanglement of algorithms with the cultural practices of teachers and students. At the interface of Communication and Education, we present analyses of how the school community interacts with influencers, short videos, and other productions mobilized by algorithms.

Keywords: educommunication; algorithms; TikTok; education; cyberculture.

Resumo: Este artigo analisa a influência de algoritmos no contexto escolar. Protocolos numéricos e sistemas de predição na internet passaram a reconfigurar a trama cultural. Com efeito, as dinâmicas escolares são atravessadas pelos códigos simbólicos em trânsito em plataformas mediadas por dinâmicas algorítmicas, tais como Instagram, TikTok e Youtube. Em pesquisa de campo no extremo sul de São Paulo, sistematizamos evidências que demonstram o entrelaçamento dos algoritmos com práticas culturais de docentes e discentes. Na interface Comunicação e Educação, apresentamos análises de como a comunidade escolar interage com *influencers*, vídeos curtos e outras produções mobilizadas por algoritmos.

Palavras-chaves: educomunicação; algoritmos; TikTok; educação; cibercultura.

1. INTRODUCTION

> "It's necessary to preserve the flipsides, you told me. To preserve what no one sees. Because it doesn't take long before skin color permeates the body and determines our way of being in the world. […] For between muscles, organs, and veins there is a place that is only yours, isolated and unique. And it is in this place that affections reside O avesso da pele [The Dark of Skin] (Jeferson Tenório, 2020)."

Algorithms play a decisive role in the functioning of contemporary digital networks. They are the tools responsible for collecting, systematizing, and operationalizing the flow of information on the internet. Under the majority control of *Big Tech companies*, algorithms condition the communicative experience in the digital context: languages, affections, and social relations are mediated by calculations that create parameters and guidelines for online navigation.

Algorithmic dynamics are widely recognized in the social fabric (Zuboff, 2019; Silva, 2023; Amadeu da Silveira, 2021) and, in effect, have begun to strain social interactions in the school context. The communicative processes of teachers and students are permeated by this logic: influencers, short videos, *stories, reels, shorts* and multiple publications today organize ways of being and existing in the world. The unfolding of this process is diverse and intertwined with serious sociotechnical transformations resulting in the ever-increasing presence of technologies in the daily life of the school. It is imperative, in this sense, to overcome the abstractions that mark the presence of algorithms in the social fabric and to analyze data that reveal the scope of the phenomenon. In other words, to understand how algorithms influence the tastes and interests of teachers and students, what meanings and interpretations emerge from the relationship with influencers, YouTubers, and, above all, how numerical calculations and predictions reconfigure social relations in the school context.

From this perspective, this article analyzes how public schools in peripheral regions of São Paulo are affected by the aforementioned issues. The objective was to verify the unfolding of interactions mediated by digital platforms in the daily lives of students and teachers. We systematized evidence of how young people interact with influencers, short videos, and other typical internet productions. Similarly, we recorded data on how teachers react to algorithmic logic and the cultural universe of students. The analysis revealed a clear fragmentation of tastes and interests within the school community. In other words, the timelines… Instagram, TikTok, and YouTube—the social media platforms most frequently mentioned in the study—play a decisive role in shaping social interactions, language dynamics, and media tastes and preferences.

The concept of algorithms is fundamental to understanding how numerical calculations dynamize what *is seen* on social media. However, as the title of this work makes clear, the research is geared towards the *opposite*. The designation,

referencing Tenório (2020), seeks to delve into the territory of what is not visible at first glance and is sometimes disregarded in analyses of algorithms and Artificial Intelligence (AI). We aim to develop an epistemological framework that shifts the focus of attention from the means to the mediations (Martín-Barbero, 2021) and attempts to understand the communicative phenomenon from the perspective of educommunicative mediations (Citelli ; Soares; Lopes, 2019): what are the interpretations and language games present on TikTok, Instagram, and YouTube? What are the dynamics of projection and identification that students engage in with influencers? What are the themes and formats mobilized by algorithms circulating among adolescents?

Brazilian literature lends us the necessary sensitivity to analyze the questions above—which also interpolate technologies in the school context. In *The Dark Side of Skin,* Jeferson Tenório shows how violence and complex racial relations demand the inversion of logic to maintain what is contrary to appearances and what *is seen:* blood in the veins, ancestry, and the struggle for social justice. The other side, in this masterful work, indicates how skin color does not exhaust the dimension of the sensitive, of lived experiences. In this article, in an approximate sense, "the other side" indicates that the instrumental logic of algorithms does not exhaust the language games and the perceptive order of communicational uses. The concept represents an epistemological perspective that allows us to reconstruct the phenomenon of communicative experiences in the periphery of São Paulo, where, at times, there is little effort to understand and systematize knowledge beyond appearances, beyond the skin.

2. METHODOLOGY

During my doctoral studies (Calixto, 2023), I conducted an investigation at the Campo Limpo Regional Education Directorate (DRE) in the southern zone of São Paulo, with students and teachers from the São Paulo public school system. In this process, I gathered data and evidence capable of testing hypotheses about how algorithms are influencing communicative experience and generating shifts in perception and sociability. I started from the principle that digital platforms are not neutral and standardized means, but rather reshapers of the cultural universe. This scenario highlights a mismatch between education systems and the *pace of TikTok,* marked by ephemeral pleasures and short-lived content, which generates tensions in school relationships.

Faced with this problem, we sought to verify whether these assumptions actually had social substance. In other words, we researched and constructed data capable of overcoming the numerical abstractions of algorithms in order to understand how these tools effectively interfere in the relationships between teachers and students. Our premise is that discussions about *Big Tech* and the multi-billion dollar business of algorithms pays little attention

to what historically marginalized groups, on the city's peripheries, have to say, how they interact, and the possible repercussions in daily life. Thus, the DRE was the place where the object of research was positioned.

In methodological terms, the approach of the work was qualitative. That is, there were no statistical intentions or attempts to expand the analyses beyond the three educational units, namely, the Municipal Elementary Schools (EMEFs) Vera Lúcia Fusco Borba, Deputado José Blota Júnior and Pracinhas da FEB, belonging to the DRE— which formed the empirical *corpus* of the research. Thus, this is a study with a non-statistical representativeness approach (Lopes, 2005).

Three main research instruments were used: a) direct observation through activities guided by an online form—in which interaction processes were created, stimulating conditions for dialogues about algorithmic logic and for the reconstruction of the lived experience of the internet; b) discussion groups: students and teachers were invited to debate and collectively analyze the data produced and systematized in the research activities; c) application of a structured questionnaire with POEDs (Digital Guidance Teachers) during the training cycle of the DRE. In total, in addition to preparatory visits and online meetings with coordinators and management, 12 in-person research activities were carried out.

The procedures described above involved 112 students, aged 13 to 15, from the 9th grade of elementary school, and 69 POEDs. The study was conducted in 2023 in the three educational units mentioned, in addition to meetings at the DRE headquarters with the POEDs to discuss and jointly analyze the data produced with the students. The methodology sought to guarantee the conditions for the reconstruction of the phenomenon in what is tangible from a communicative point of view: the interactions, dialogues, and mediations that arise intertwined with algorithms. *The flipsides* is an epistemological approach to overcome a deterministic perspective that analyzes algorithms strictly from the functioning of digital networks—a territory marked by the black box of the multibillion-dollar Big Tech business (Empoli, 2020).

This work resulted in a broad set of information that allowed for the systematization, classification, and development of the analysis of the main occurrences. The premise for data processing was that it could reconstruct the experiential dimension of the researched group. For the analyses and results to be presented below, the findings were triangulated with the theoretical framework positioned at the interface of Communication and Education, which articulates the critique of the operations of Big Tech companies. (Fisher, 2023), cultural mediations (Hall, 2016) and, of course, educommunicative mediations (Citelli, 2020). Due to spatial limitations, a specific selection of results and significant facts was made that highlight the essence of the interrelationships between algorithms and educommunicative mediations, contextualizing the data presented with theoretical precepts. The

expansion of the theoretical discussion, as well as methodological procedures and categories of analysis, are published in the doctoral thesis resulting from the investigation (Calixto, 2023).

3. ALGORITHMS AND EDUCOMMUNICATION

In the field of mathematics, algorithms represent applications responsible for identifying patterns in problems, establishing a path to solve various situations and equations. It is a numerical system that develops a logical path, with induction and deduction, in order to solve tasks. In the jargon of computer programming, algorithms are like a *cake recipe,* that is, a set of operations for an equation to occur. The comparison suggests a process similar to selecting ingredients, measurements, and criteria for baking a cake. With technological advances in recent decades, algorithms have gained high complexity as they have been integrated into the functioning of the internet. Beyond being mere tools, they have come to shape social dynamics through technological mediation. In this scenario, *the recipe* indicates how information flows will be systematized to arrive at an expected result. It is a tangle of numerical applications and protocols that organize the architecture of how the internet works.

Algorithms collect, systematize, and analyze an exponential amount of data, calculating and recording behaviors, anticipating consumption patterns, and editing information based on markets and niches of interest. This dynamic is multifactorial and depends on the objective stipulated by the computer programmer. What is displayed on timelines, streaming platforms, and various applications—social networks, transportation, messaging apps, banking systems, dating, games, food, among many others—is presented based on predictions and resolutions constructed by algorithmic calculations.

It is not appropriate here to historicize or expand upon the mathematical aspects of algorithmic functioning. This approach recognizes that the instrumental limits of algorithms must be contextualized within a broader spectrum: contemporary society. More than logical operations, this perspective signifies that there are socioeconomic interests present at each stage of the predictions. The algorithm selects and conditions information that serves the interests of commerce, the ideological trends that underpin *Big Tech* companies, and, undoubtedly, the neoliberal dynamics of deregulation and the cult of the individual dimension (Dardot; Laval, 2019). Organized by algorithms, the content displayed on the cell phone screen represents the movements and interests of a market eager for consumer attention and data. Therefore, the supposed mathematical objectivity is nothing more than a mirage when considering the techno-social implications of each calculation that conditions what people will or will not have access to.

The rational exploitation of emotions makes these tools crucial for *jumping* from one piece of content to another, from publication to publication. Under

the aegis of *happycracy.* (Cabanas; Illouz, 2022), users thus find an inexhaustible source of entertainment and basic functionalities: ordering food, requesting a taxi, dating apps, listening to music, financial transactions, betting on the *betting market,* purchases with immediate delivery, and various other areas of human life. Therefore, it is imperative to recognize that the relationship between human beings and technologies is situated within a historical and social context, and algorithms end up interfering in how social subjects are relating to the cultural fabric.

It is in this scenario that platforms influence daily school life. Hence, the dialogical threads between communication and education are mobilized by the central importance of algorithms in everyday life. School discourse is strained by symbolic elements resulting from the interaction between the school and algorithmic logic: with internet access, teachers, and students today coexist with codes and languages that involve the selection and classification of news, music, videos, cultural devices—such as memes, parodies, and humorous pieces—and, consequently, have a specific impact on how reality is reconstructed.

One of the main consequences of these operations is the extreme personalization of the communicative experience. During the research process in schools, we found that coexistence is challenged by a drive for *what comes next* and for *personal satisfaction.* Students and teachers are immersed in the logic of receiving content that caters to the unique desires and affections of personal experiences. For each song, *story, reel,* or short video, algorithmic calculations are focused on discovering what will generate interest at the individual level. In this sense, especially in school—where the imperative is (or at least should be) the joint construction of knowledge—dealing with contradiction and with experiences not formulated at the individual level has begun to generate tensions of various kinds. There is little patience, interests are diffuse, and students and teachers find few opportunities to share a common cultural universe (Pariser, 2012). Compared to coexistence, symbolic exchanges, and dialogue, what generates immediate and personalized satisfaction is valued more.

In the contemporary world, we observe a myriad of influencers, musicians, celebrities, professional athletes, comedians, journalists, and many other possibilities that present diffuse content, without linearity and, at times, without reflective continuity. The logic present in the process, which provides narrative organization, is found in what can generate attention and clicks at the individual level. Indeed, ensuring that students can converge in terms of learning is an arduous task when contemporary culture provides a continuous stimulus to "*what's in it for me?*". *This doesn't interest me, what's the point of this?* and other statements related to the processes of deregulation and social fragmentation.

It is possible to discuss the results of this process extensively, starting from a critique of the logic of bubbles, the influence of *Big Tech* in shaping human experience, and the disintegration of the social fabric as a symptom of surveillance capitalism (Noble, 2021). However, the focus of this study is centered on a theoretical-methodological approach that shifts the focus of interest from

the means to the mediations. That is, more than instruments dedicated to influencing—if not manipulating—it is possible to recognize technologies as a continuous interaction between humans and non-humans, reconfiguring language games and the cultural fabric. From this perspective, the Latin American intellectual tradition on the interface between Communication and Education offers a theoretical-methodological path to understand the shifts and transitions surrounding the insertion of algorithms into daily life.

The links between Communication and Education are crucial for understanding how the school context coexists with shifts brought about by new rationalities and interferences emerging from the macrostructures of the contemporary world. Thus, Educommunication is invoked here precisely as an area of knowledge that addresses the discussion about technologies from a systemic perspective. More than just apps, computers, and social networks in schools, Educommunication seeks to understand how symbolic goods that have come to dynamize sociability in the school context are produced, circulated, and interpreted. The concept of a Communicative Ecosystem (Citelli, 2011; Martín-Barbero, 2014; Soares, 2011) brings together different authors who, in a similar sense, show that communication and education have become strategic areas when considering the social transformations resulting from the ever-increasing presence of media in daily life.

In algorithmic logic, the interrelation between the two areas offers ways to understand how symbolic exchanges integrate school discourse, classroom practices, and also the shifts in knowledge. Overcoming the dualism between emission (content on timelines) and reception (interpretation and re-signification of content), or even between human beings and techniques, is a premise for understanding how algorithms influence the school's Communicative Ecosystem and, consequently, mediate how students react to and interpret discursive interconnections; or even:

> In any case, it is important to remember the existence of these discursive interconnections that feed the (co-)enunciative games that will ultimately activate the sequences of messages in their confirming, transforming, or negating variations of the issues in circulation. In other words: there are subjects who operate multiple contours of the received signs, whether verbal or non-verbal in nature, (re)configuring them — or, in our terms, properly elaborating their meanings—based on social and cultural variables that serve as formative references for those subjects (Citelli, 2004, p. 143, our translation).

The school community has new parameters for participation and engagement, and the frequent disinterest in classes can be understood, among other things, by the current form of knowledge circulation: algorithmic mediation. From this perspective, technologies must be understood within the relational spectrum they have with young people. The research results were achieved from this relational and systemic intentionality, seeking to systematize the cultural and social variables and the dialogical threads between the macrostructure of algorithms and the social interactions in transit in the three educational units studied.

4. COMMUNICATIVE RECONFIGURATIONS IN SCHOOL

Algorithmic logic is revealed, first and foremost, in the type of interaction students have on the internet. During the investigation, they were asked *what they most enjoy doing on social media*. Among the 112 students, 58 stated—each in their own way—that *watching, viewing videos,* or simply *seeing* are the activities that generate the most interest. On various levels, this means that watching influencers is one of the main connections between algorithmic logic and the cultural universe of young people. All participants stated that they browse Instagram, TikTok, and YouTube, the three most cited platforms, with an average intensity of at least five hours a day. More than photos, comments, or exchanging messages, watching videos is the most prominent action in these spaces. In other words, it is a comprehensive use, with many hours of use, connected to algorithmic calculations and predictions. *Watching, viewing videos, viewing stories, watching dance videos* and related expressions reveal that this sociotechnical dynamic is deeply integrated into the daily lives of young people.

There are several implications of this phenomenon. Fed with tailor-made content, young people showed a lack of interest or openness to content that doesn't belong to a specific universe of selections made by algorithms. During activities in the three schools, whenever diverse content not belonging to a specific niche (such as Funk[1], lifestyle, or sports, for example) was presented, a significant portion of the students did not participate or even interact. This demobilization in the face of something not made according to algorithmic parameters is one of the research findings, systematized and presented in the doctoral thesis.

Another relevant finding is the profound fragmentation of tastes and interests resulting from this intense pace of *watching videos*. Students were asked *who their favorite influencer is*. For illustrative purposes, Table 1 presents the full responses to demonstrate how the concepts of extreme personalization of communication and the fragmentation of cultural patterns can be observed.

Table 1: List of influencers cited by students in the survey

1) MC IG	38) Cbum	75) VihTube	112) Demi Lovato
2) Veigh	39) Ramon Dino	76) Roger Guedes	113) Fran Japa
3) Giovana Dib	40) Rickzin	77) Yuri Alberto	113) Orichinho
4) Luna Carrilho	41) Mari Maria	78) Felipe Titto	114) Doa
5) Julia Alvarenga	42) Amanda Araújo	79) Podpah	115) Ryhanna
6) Kelin Uess	43) Inemafoo	80) João Caetano	116) Michael Jordan
7) Renato Garcia	44) Tigresa Vip	81) Luis Mora	117) Steph Curry
8) Mirella Santos	45) Kid Bengala	82) Henny	118) Ludmilla
9) DJ Gouveia	46) Virginia Fonseca	83) Maju Rossi	119) Lucas Inutilismo
10) Vinícius Alves	47) Marielly Santos	84) Livia	120) DJ Arana

1 Funk will hereafter refer to Brazilian Funk/Funk Carioca [Carioca is the demonym for people native to the city of Rio de Janeiro]. This highly popular genre originated in Rio's favelas (late 90's) and, distinct from American Funk, rapidly transformed into a unique electronic style. It is characterized by fast-paced electronic beats centered on the tamborzão (deep bass drum rhythm) and explicit lyrics sung in informal Portuguese slang.

11) Bitgamer	48) Kayblack	85) Clara Pimentel	121) Zendaya
12) MC Hariel	49) Baco Exu do Blues	86) Larissa Manoela	122) Clara Garcia
13) MC Paiva	50) Kyan	87) @kikavei	123) Paulinho o Loko
14) Neymar	51) Djonga	88) BTS	124) Player Tauz
15) Cristiano Ronaldo	52) BK	89) Corinthians	125) Maethe
16) Loud Coringa	53) Anitta	90) MC Ryan	126) Smzinho
17) Menokabrinha	54) Casimiro	91) MC Don Juan	127) Gkay
18) Nino Abravanel	55) MC Tato	92) Vanessa Lopes	128) Stackz
19) Buzeira	56) Javon	93) Hytalo Santos	129) Thiago Ventura
20) Marina Ruy Barbosa	57) Felca	94) Geovana Did	130) Karoline
21) NBA	58) Alanzoka	95) Hidro	131) Ceci
22) Zollim	59) Banheirista FC	96) Ine and Taspio	132) Jessi
23) Messi	60) The weekend	97) Deolanne	133) Coutinho
24) Meno Tody	61) Bruno Mars	98) Páginas Futebol	134) Cellbit
25) Vitor Lo	62) Felipe Neto	99) Juliana Perdomo	135) Super Xandão
26) Gabigol	63) Luara	100) Nalim	136) MC Jhonny
27) Jefferson Calleri	64) Bruninha	101) Três de Outubro	137) Peter Jordan
28) Breier	65) Felca	102) Kamaitachi	138) Spider Slok
29) Mmotivation	66) Games Eduu	103) Carol Biazin	139) Guilherme Batista
30) Cortes do podcast	67) Maisa	104) Elana Dara	140) Romulo Russo
31) Shiny_sz	68) Jazzghost	105) Nando Lek	141) Ian Somerhalde
32) Luisa Mel	69) MRguinas	106) Futparódias	142) Joseph Morgan
33) Luisa Sonsa	70) Souzones	107) Lucas Cordeiro	143) Phoebe tonkin
34) Iluana Maia	71) Gabs	108) Canal de Skills	144) Luba TV
35) Menor Bruno	72) Core	109) Kamylinha	145) Jean Luca
36) Whinderson Nunes	73) Kksaiko	110) Sina Deinert	146) Francine
37) Lucas Motovlog	74) Binho Player	111) Tom Felton	147) Lojas de Produtos

Source: Prepared by the authors (2023).

With this list, two aspects can be explored. First, among 112 participants, there are 147 distinct mentions. It is possible to observe a considerable number of unknown internet pages and personalities—considering, of course, the adult audience and a mainstream social media context. Some students mentioned more than one influencer. However, there is a wide range of intertwined interests regarding what these influencers and internet pages mean and represent to the students.

Secondly, it is not possible to exhaustively analyze what Table 1 means here, but it is worth highlighting the breadth of the differences. In total, 69 professors also answered the same question about their preference for influencers. The responses indicated 105 different distinct citations, including YouTube

channels, celebrities, and public figures. Mário Sérgio Cortella, Leandro Karnal, Iberê Thenório, Preta Rara, Lula, Guilherme Boulos, and especially Diogo Almeida—cited several times—were the only influencers to be mentioned more than once by the professors.

The cultural difference between teenagers and adults is not a surprising aspect. It is presumed, not only due to age but also symbolically, that these groups have disparate preferences. What is striking, and thus we classify as evidence, is the depth of the differences. The study was conducted at (DRE), in southern São Paulo, with individuals who inhabit a common region. However, it is noticeable that the differences, even in an approximate sociocultural context, are significantly broad in terms of citations and references. Regarding the comparison between students and teachers, totaling 252 influencers, only MC Hariel, Virgínia Fonseca, and Baco Exu do Blues were cited by both teachers and students.

POEDs expressed serious concern about the nature of the content shared by young people: *frivolous, irrelevant, violent,* and *nonsensical* were some of the concepts raised by teachers when discussing the content that engaged students. During the research process, however, it became clear that teachers have little knowledge on the themes explored by young people, and make aesthetic and musical assumptions based on their own tastes or interests. There is a clear disconnection between what young people think, feel, wear, and express and what teachers observe and conclude from these experiences. This kind of relationship brings about caricatures, stereotypes, and, in some cases, prejudice regarding students' interests.

However, such apprehensions are not accidental, and find pertinent justification among teachers. Explicit *Funk* music glorifying sexual liberation, misogynistic content, videos showcasing ostentatious displays and glorifying easy money, songs glorifying violence, and fashion and lifestyle influencers who became millionaires by showing their makeup routines and travels, among other content, symbolize a semantic universe that contradicts the pedagogical intentions in the classroom. *To contradict* means to oppose the formative interest in citizenship, respect for diversity and fundamental guarantees, the fight against discrimination and all forms of violence that exclude and stifle marginalized communities. During the research activities, teachers expressed discomfort in dealing with themes that generate tension and are not connected to the basic curriculum.

Therefore, it can be said that finding a shared cultural universe represents a persistent challenge in the face of algorithmic logic. By triangulating the data in light of the theoretical framework, it was possible to verify that, beyond the *unknown,* the tastes of the school community reveal difficulties in comprehension, awareness, and connection among peers. The school today represents one of the few spaces of coexistence that is not marked by the individual and personalized. The routine in the classrooms is not organized by algorithmic calculations, but rather by pedagogical mediations

and social interactions. In this sense, tensions, cultural mismatches, and misunderstandings of various kinds arise.

There are reasons and justifications for the content presented by young people to only make sense in a particular and specific circumstance: the timeline of browsing social media. It is no coincidence that each influencer, each short video or piece of content is capable—after theorizing about algorithms—of aggregating information that exemplifies the shifts in knowledge and the movements of a world in transformation. Although influencers and celebrities are not physically in contact with the DRE, the narrative process, behaviors, and worldviews of these actors mobilize the perceptual order of the students, who then reflect, resignify, and attribute value to reality—and, of course, to the school routine. The *TikTok Rhythm,* as the algorithmic dynamics have been classified in the context of the interrelation between Communication and Education, brings to schools a kind of "*effect of reality,*" as if… The timeline was also present, whether in the courtyard, the computer lab, or in the classrooms, and also in what the students say. Language also plays a performative role, and thus, the multiple themes of digital platforms constitute the perceptual order and the social interactions in transit at the school.

The exponential diversity of influencers evokes a myriad of emotions, allowing young people to attribute meaning to their reality through a game of projection and identification. Liking and interacting with an influencer opens avenues to demonstrate that, in the peripheries, there are affections associated with the concept of "*Favela Won,*" sexuality, ethnic-racial relations, the desire for expression, and identification with those who *were once like you*. The uses and appropriations of content on TikTok, YouTube, and Instagram showed, throughout the research, the essence of social relations in the Campo Limpo region: desires for transgression (based on ostentatious videos), symbolic violence (expressed by explicit *Funk* music and adult content shared by students), and the desire to overcome a general state of deprivation ("*Favela Won*").

One of the research findings also reveals that, although the list of 147 distinct mentions is imperative, by systematically examining the interpretations attributed to the names, we identify similarities and points of convergence. Thus, the seemingly multifaceted universe, when analyzed in detail, reveals similarities in patterns. In other words, although several *Funk* artists are mentioned individually (and many students who like *Funk* are unaware of the citations of their classmates sitting next to them), an in-depth analysis of their content, styles, and music reveals a remarkable consistency regarding the themes they address, the music they produce, and, especially, the *model* of their publications.

The plurality of influencers shares themes such as cars, motorcycles, and other elements of peripheral culture, in addition to expressing similar ideas and publishing identical content, suggesting a common underlying

logic. This highlights a contradiction in our argument: although there is a proliferation of names and influencers, each catering to individual and fragmented interests, a deeper analysis reveals a remarkable standardization in content, language used, and forms of expression that resonate with young people. This phenomenon identified in the research demonstrates the full functioning of algorithmic logic: while meeting individual demands, algorithms also promote formats that are considered relevant and share visible similarities. Furthermore, content producers adapt their publications to ensure greater dissemination through algorithms.

As Beiguelman (2021) asserts, there are millions of posts worldwide showcasing diverse activities, but which, on various levels, all seem the same. These are small daily (or instantaneous) revolutions that keep everything in the same place. It is worth noting that this analysis does not intend to underestimate the creativity and talent of influencers. Homogenization is associated with numerical calculations that boost certain content over others. Indeed, there is a recognizable pattern: the informal style of recording videos with a cell phone, the camera close to the face to create a sense of intimacy, quick edits, content with sexual or sensual appeal, humor, and smiles to make the video attractive. With all these variations, a common pattern has been identified called *TikTok rhythm*. This is a search for ephemeral content, designed to provoke laughter and encourage continuous cycles of *what comes next*.

In the data analysis phase, numerical aspects and frequent occurrences were not the only criteria for studying the algorithms. That is, among the 147 names mentioned by the students, several were mentioned only sporadically—being duly recorded in the field diary when possible—and thus, the interactions and dynamics in the classroom also constituted a criterion for observing the facts most representative of our research object. Therefore, the criteria adopted were semantic proximity and the logical and discursive links that they establish among themselves and, of course, among the students. Figure 1 below shows one of the most relevant thematic concentrations in this regard:

Mirella Santos
16,1 milhões de seguidores - Instagram

Veigh
4,3 milhões de seguidores - Instagram

DJ Gouveia
620 mil seguidores - TikTok
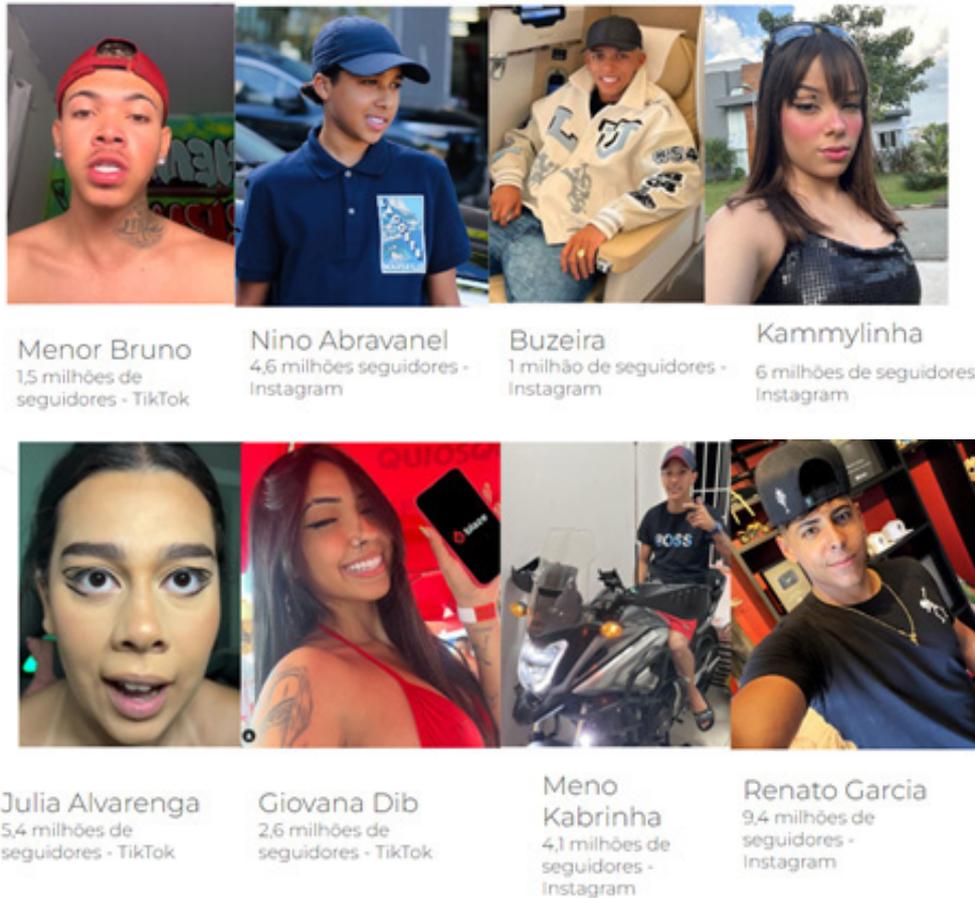
MC Paiva
6,1 milhões de seguidores - Instagram

Figure 1: Influencers who were frequently mentioned during the research.

Source: Images retrieved from Google (2023).

After systematizing the data, it was considered that the 12 young people in Figure 1—each in their own way and with their own peculiarities—are able to synthesize how symbolic codes and language games circulate among students. The study participants demonstrated affinity and high interest, highlighting the *success, joy, personality,* and *style* of each of those mentioned. Students from the three EMEFs (Municipal Elementary Schools) surveyed like what they say, the music, the humor, the clothes, the ostentation, the tattoos, the motorcycles and cars, and various cultural manifestations present in the 12 influencers. Evidently, there are differences, and not all 112 study participants identify with this particular group of influencers. However, it was observed that this thematic group deals with issues of everyday life in the periphery, and these 12 influencers generated the most attention and discussion in conversation circles, demonstrating a deep connection between what they share on social media and the students' affections. One of the teachers participating in the study, upon encountering this list during activities with the POEDs, summarized what was classified as projection and identification games, as shown in response table 1:

Response table 1: Record made in the research activity with POEDS

Respondent 1
I look at this list and I see my own students, as if they were in my classroom.

Source: Author (2023).

The selection in Figure 1 does not reduce to 12 the number of mentions or content that could potentially reveal similar aspects. We understand that Kammylinha, Buzeira, Nino Abravanel, Menor Bruno, Renato Garcia, Meno Kabrinha, Giovana Dib, Julia Alvarenga, MC Paiva, DJ Gouveia, Veigh, and Mirella Santos represent a broader group of content creators who resonate with students, according to the testimony of Respondent 1. Furthermore, Figure 1 shows the potential to synthesize hundreds of others that could be cited in a qualitative study, depending on the sociocultural and geographical context. It is understood that the style, the mechanism of delivery, the aesthetics, and other factors present in this group of influencers establish the algorithmic model to be reiterated as a system of repetition, calculations, and predictions of tastes and interests. Below, in response tables 2 and 3, we see how some students attribute meaning and interpret the importance of influencers.

Response table 2: Field diary entry made at EMEF Blota Júnior

Respondent 1
I like Funk because it's from the favela. What else am I supposed to like? There's no way around it, professor.

Source: Author (2023).

Response table 3: Meaning attributed to influencers by students

Respondent 2 about the musician Veigh:	Respondent 3 on influencer Mirella Santos:
Veigh is too sick. Favela Won, you know what I mean?	*I like her personality. She came out of nowhere and now she's successful.*
Respondent 4 about Renato Garcia:	**Respondent 5 about Kammylinha:**
I like cars, that's why I follow him. I want to be like him soon.	*She is authentic, fun, spontaneous, just like me.*
Respondent 6 on Meno Kabrinha:	**Respondent 7 on Veigh:**
He's incredibly resourceful, he's not afraid of anything, he's like the kids from Jardim Ângela.	*The point is to make money, and he succeeded.*

Source: Author (2023).

The collected testimonies reveal the aforementioned process of linking and identification. Ultimately, algorithms seek to generate engagement, that is, to ensure that internet users spend as much time as possible in front of screens. Figure 1 and the response tables with student testimonials indicate that study participants find influencers from a similar reality, with similar ethnic-racial traits, who, in a digital surge, have gained millions of followers and, consequently, millions of reais in their bank accounts. This could explain why they spend hours and hours a day following, watching videos, and interacting with these influencers. Considering the algorithmic logic, it is possible that if the research had been conducted months earlier or months later, the responses and citations could be significantly different. However, it is believed that these 12 influencers carry traits that are more lasting and could synthesize preferences and tastes on a larger scale. It is understood that, even if the names mentioned change, as a result of algorithmic ephemerality, these social structures and symbolic exchanges are more prominent and last longer than a *swipe of the fingers* or the new release of a *raunchy single*.

5. FINAL CONSIDERATIONS

The algorithmic flipsides is considered a central element of epistemological concerns. It is fundamental to emphasize that this concept does not intend to establish a dualism between the algorithm and its supposed *inverse,* as if they were separate parts of the same unit. On the contrary, the objective is to illuminate how social dynamics have come to be mediated by a techno-social agent capable of influencing sociabilities in the contemporary context. Between *Big Tech* and the young participants in this research, a hybrid dynamic is established that involves, on the one hand, the prediction, and creation of consumption patterns and, on the other, the appropriation, and use of short videos, memes, and other expressions typical of social networks by students. The *flipsides* correspond, ultimately, to the recognition of the importance of the voice and communicative expression of young people and teachers in the southern zone of São Paulo. The algorithmic dimension, in this sense, only materializes in the relationship between subjects and technologies, since it is in this interaction that discourses are realized through language.

The *algorithmic flipsides,* thus, seeks to reveal what is not immediately visible in the realm of appearances—in timelines, stories, reels, and other interfaces—that is, how students interpret symbolic codes and enunciated discourses (published, posted, shared), which become unique markers of contemporary sociability. We cannot directly observe, read, hear, or feel an algorithm. However, this technology is present in everyday life in every interaction: when we order an Uber, when we place an order on iFood, when we search on Google, or when we interact on social media. At every step,

with every digital trace, numerical predictions order information on the web, deciding what will or will not be made available to users.

The exercise of visibility/invisibility can constitute a strategic path for education systems to position themselves in the face of the influence of algorithms, developing teaching-learning cycles that emphasize mechanisms of covering, concealing, and discovering. By recognizing that visible discourses and language games—stories, reels, short videos, reacts, memes, news, Google search results, as well as content from platforms like Netflix or YouTube—are effects of invisible dynamics, such as patterns of inclusion and exclusion, space is opened for educators to promote the development of critical thinking. In this way, young people can explore the limits of a reality edited and made available *to order* on screens. By investigating the interpretations and language games associated with algorithms, we find interconnections that are barely perceptible from the instrumental perspective of communication, but which become revealing when observed from the perspective of symbolic and discursive exchanges.

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