

Science popularization on Instagram: an initial study based on Information Design analysis

A popularização da ciência no Instagram: um estudo inicial baseado na análise do Design da Informação

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The science popularization on social media has expanded access to knowledge but also intensified misinformation, highlighting the need to adapt scientific knowledge to ensure high-quality information reaches the public. Information Design helps organize complex content into clear and accessible visualizations. This study evaluated the comprehension of eleven non-design participants regarding five posts from scientific profiles on Instagram – four created by researchers without design expertise and one by an institution with a dedicated communication team. The analysis focused on typography, color use, images, and content. Results showed that, even without design training, participants perceived weaknesses in the Information Design of the posts, compromising content reception. The main comprehension difficulties followed a hierarchy: legibility was the most critical factor due to poor text-background contrast and inappropriate typography, followed by visual hierarchy, with a lack of emphasis on key content and differentiation between primary and secondary information. Visual unity was also affected by the lack of standardization in the posts. These findings reinforce the need for greater attention to typography, color, and composition in science communication. The study suggests that scientists adopt Information Design principles or collaborate with specialists, integrate Information Design courses into academic programs, and explore design aspects beyond aesthetics, focusing on the effective organization of information.

*Design da Informação,
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A popularização da ciência nas redes sociais expandiu o acesso ao conhecimento, mas também intensificou a desinformação, destacando a necessidade de adaptar o conhecimento científico para garantir que informação de alta qualidade atinja o público. O Design da Informação ajuda a organizar conteúdos complexos em visualizações claras e acessíveis. Este estudo avaliou a compreensão de onze participantes não designers acerca de cinco publicações de perfis científicos no Instagram – quatro criadas por pesquisadores sem especialização em design e uma produzida por uma instituição que tem sua própria equipe de comunicação. A análise focou em tipografia, uso da cor, imagens e conteúdo. Os resultados demonstraram que, mesmo sem treinamento em design, os participantes perceberam fraquezas no design da informação das publicações, comprometendo o recebimento do conteúdo. As principais dificuldades de compreensão seguiram a hierarquia: legibilidade foi o fator crítico, devido ao precário contraste do texto com o fundo e à tipografia inadequada; em seguida, a hierarquia visual, com falta de ênfase no conteúdo principal e diferenciação entre a informação primária e secundária. A unidade visual

também foi afetada pela falta de padronização nas publicações. Esses resultados reforçam a necessidade de maior atenção a tipografia, cor e composição na comunicação científica. O estudo sugere que cientistas adotem princípios de Design da Informação ou colaborem com especialistas, integrem disciplinas de Design da Informação nos programas acadêmicos e explorem aspectos de design além da estética, focando na organização eficaz da informação.

1 Introduction

With the emergence of social media, the dissemination of information has reached an unprecedented scale, expanding access to knowledge. Platforms such as Instagram provide scientists with the opportunity to share their discoveries directly with the public while also increasing their visibility (Giles, 2023). On the other hand, social media has also facilitated the spread of pseudoscience and misinformation. According to the OECD report (2024), Brazil is one of the countries with the highest credibility index for fake news, which can be categorized into misinformation, erroneous information, contextual deception, propaganda, and satire. The areas most impacted by misinformation in Brazil are the environment, health, and international affairs. Thus, it is crucial to adapt scientific knowledge to ensure that high-quality information reaches different communities.

Scientific popularization aims to adjust the form and language used so that complex information can be conveyed clearly and simply. As defined by Magalhães (2015), this process involves communicating scientific and technological information to the general public using accessible and comprehensible language. Therefore, it is not just about translating terms but rather about recreating knowledge that was previously restricted to a specific group. Thus, adopting effective strategies is essential to ensure that content is appropriately conveyed (Piassi et al., 2013).

At this point, Information Design (ID) emerges as a strategic field for producing materials that employ appropriate and engaging modes of symbolization (Mora, 2003). ID is a branch of design focused on defining, planning, and structuring the content of a message and the environments in which it is presented, with the aim of meeting the informational needs of the intended recipients and promoting communicative efficiency (SBDI, 2020). To graphically represent information in a clear and accessible manner, ID integrates elements of graphic design, such as typography, colors, and images, organizing them strategically to optimize comprehension and visual communication (Oliveira et al., 2013).

Given this context, this research, through an initial study, aims to analyze the content of five Instagram profiles managed by scientists who are not design specialists, focusing on scientific popularization. The analysis examines the influence of ID, particularly regarding graphic presentation, and how it affects the comprehension of the target audience, which consists of non-designers. To achieve this objective, eleven participants were selected for semi-structured interviews.

2 Information Design and Visual Communication

Frascara (2004) defines ID as Visual Communication Design, which involves the process of conceiving, programming, and designing visual communications. ID faces the challenge of capturing and maintaining the reader's attention while ensuring clarity and the appropriate presentation of content. This process entails organizing and categorizing complex information across various contexts and applications.

According to Lipton (2007), humans tend to seek patterns and assign meaning to them, also perceiving disruptions as distinct elements. Larger or more striking visual elements are seen as more important, and the search for order is constant, even when it does not exist. Visual disorganization creates discomfort, leading individuals to mentally group separate parts into a cohesive whole, much like the way people seek interpersonal connections.

Given the need to guide individuals in creating informational products that are satisfactory, efficient, and effective – ensuring a clear and reliable presentation and interpretation of verbal and visual information – several studies have been conducted (Lipton, 2007; Lidwell, Holden & Butler, 2010; Petterson, 2012). Among them, Lipton (2007) proposed eight principles, based on Gestalt theory, which serve as guidelines for the practical application of ID, as illustrated in Table 1.

Table 1 Guidelines for the practical application of Information Design (adapted from Lipton, 2007).

Principle	Description
Clarity	<ul style="list-style-type: none"> • Limit the content and design elements to what is essential for the audience, avoiding unnecessary information. • Highlight the content clearly against the background and use clear, legible images.
Consistency	<ul style="list-style-type: none"> • Use style (including size, font, and color) to highlight relationships with other elements. • Group related elements and contrast those that are not related.
Segmentation	<ul style="list-style-type: none"> • Group related information to highlight their connections and separate those that are not related.
Proximity	<ul style="list-style-type: none"> • Use space appropriately by moving informational elements physically closer or farther apart as needed.
Structure	<ul style="list-style-type: none"> • Establishes a correlation with the principles of segmentation and proximity, addressing the sequential organization of elements.
Hierarchy	<ul style="list-style-type: none"> • Organize the information in order of importance, from the most relevant to the least relevant, and emphasize what is most important.
Alignment	<ul style="list-style-type: none"> • Align the elements to help the audience navigate through them.
Balance and reading flow	<ul style="list-style-type: none"> • Interacts with other principles, aiming to organize the information in a way that properly guides the viewer's eye.

To apply these principles effectively, it is essential to understand four fundamental elements in design: typography, color, images, and content. The following sections will explore each of these aspects in greater detail.

2.1 Typography

Typography is a factor that influences clarity and navigation in a design project. Cui et al. (2023) highlight that effective typographic design must balance legibility and aesthetics, considering factors such as font, color, size, weight, spacing, and information hierarchy to ensure smooth reading across different devices and screen sizes.

Digitalization has expanded the possibilities of typography, allowing greater flexibility in text composition. The OpenType format enables the use of ligatures and alternate characters, while Web Fonts ensure consistency and control of visual identity across multiple platforms (Dick & Woloszyn, 2023). However, typographic choices should consider not only aesthetics but also factors like contrast, alignment, and text distribution to prevent visual fatigue and enhance the reader's experience (Flynn, 2018).

The debate over the use of serif or sans-serif fonts in digital media remains inconclusive. Some studies suggest that sans-serif fonts favor reading on screens (Dogusoy, Cicek & Cagiltay, 2016; Lupton, 2014), while others argue that factors such as contrast and font size have a greater impact on legibility (Richardson, 2022; Flynn, 2018). Flynn (2018) emphasizes that typography perception goes beyond font choice, stressing the importance of establishing a clear visual hierarchy by differentiating primary and secondary information through variations in weight and size (Cui et al., 2023).

In addition to technical aspects, typography also influences how content is perceived. The choice of typographic styles can evoke sensations and convey specific characteristics of the text, such as seriousness, relaxation, sophistication, etc. (Dick & Woloszyn, 2023).

2.2 Color

Color is often seen as a decorative element rather than a communication tool. However, humans have the ability to identify patterns and differences, and the consistent use of color can signal changes in meaning when this pattern is broken. In addition to highlighting differences and similarities, color also plays an essential role in guiding the reader, facilitating navigation and memory, emphasizing or downplaying elements, and conveying various meanings (Opara & Cantwell, 2014; Holtzschue, 2002).

According to Pentak and Lauer (2014, pp. 28–30), visual unity, related to the principle of consistency, is achieved through the repetition of shapes and the similarity of colors. This unity creates an organization that allows for smoother reading, as the reader tends to seek visual patterns that guide their reading experience, also relating to the principles of balance and reading flow (Pentak & Lauer, 2014, p. 32).

2.3 Image

Photos, illustrations, diagrams, and maps can replace, reinforce, explain, and illustrate textual content. When simplified to lines and curves, they communicate quickly, often more effectively than words. The effectiveness of these representations depends on how they are used (Pettersen, 2012). According to Lipton (2007), an effective image should be sharp, have a specific focus, clear meaning, illustrate and clarify the content, and be placed near the relevant text.

Well-designed diagrams can clarify and help retain information better than text alone, offering an overview or deepening understanding. However, Gates (2018) notes that if poorly chosen, diagrams can increase cognitive complexity and hinder comprehension, especially if they are confusing or poorly integrated with the text.

2.4 Content

According to Pettersen (2012), three aspects are fundamental when creating a text: legibility, comprehension, and emphasis. Legibility is directly linked to the elements discussed in the typography section. For on-screen texts, it is crucial to use fonts designed for digital media and to pay attention to the contrast between the text and the background (Carter, Days & Megs, 2014, p. 80; Hoffman, White & Aquino, 2005).

Comprehension refers to the appropriateness of the content and its presentation for the target audience. Abstract terms, jargon, long and complex sentences, passive constructions, and artificial language can hinder the reading and understanding of the text (Pettersen, 2012). It is important to emphasize that scientific popularization goes beyond simply translating knowledge; it involves its recreation to make it accessible to a wider audience (Mora, 2003). A widely used strategy to make complex concepts more understandable is the use of analogies, which link an unfamiliar idea to one that is more familiar. However, its use requires caution, as poorly structured comparisons can lead to epistemological mistakes and misinterpretations (de Almeida & Conceição Ribeiro, 2006).

Emphasis serves to capture, direct, and maintain the reader's attention. Bold or italicized fonts are effective in highlighting parts of the text. Underlined words or all-uppercase letters should be limited to titles, and the use of shadows or outlined letters should be avoided. Additionally, the use of auxiliary questions can be a useful strategy to highlight relevant information within a paragraph (Pettersen, 2012).

Given the importance of ID in visual communication, it becomes essential to evaluate how its principles affect audience comprehension in digital contexts. Considering that scientific popularization on Instagram is often carried out by researchers without design training, this study seeks to investigate whether typographic, chromatic, imagistic, and organizational choices impact the clarity and reception of information. To achieve this, a focus group study will be conducted with young non-experts, analyzing

their perception of scientific popularization posts and verifying whether the application (or absence) of design principles influences their interpretation.

3 Methodology

This initial study was conducted using a qualitative and exploratory approach (Gil, 2025). Data collection was carried out through semi-structured interviews, which were developed based on a previously conducted integrative literature review. The procedures employed included three stages.

The first stage involved surveying Instagram accounts focused on scientific popularization. The following profiles were selected: Instituto Serrapilheira,¹ Nunca Vi 1 Cientista,² Genéricos e Similares,³ Ned3⁴ e Ser Cientista,⁵ from which one post was chosen from each account. The selection of the posts considered two of the main themes of misinformation in Brazil: health and the environment. The posts were classified by expert authors based on the principles of ID, resulting in the following categorization: appropriate (1 post), partially appropriate (2 posts), and inappropriate (2 posts). Instituto Serrapilheira was the only account among those selected that has a team specialized in scientific popularization. In the other cases, the posts were produced by researchers without specific design training.

In the second stage, a semi-structured interview script was developed, with predetermined questions to be answered, while allowing flexibility to explore additional topics that could arise from the interviewee's comments. Initially, the aim was to identify the participant (p1. name; p2. age; p3. education level; p4. field of study or work). Then, the posts were presented for the participant to read. After reading each post, questions were asked according to the established script. Regarding the understanding of the use of graphic language elements, questions were posed about: (p5.) typography and ease of reading, the relationship between the font's format and size; (p6.) text quantity and the language used; (p7.) images used; (p8.) use of colors. Finally, (p9.) whether any component of the post hindered comprehension and (p10.) the overall comprehension of the content.

The third stage involved selecting the participants, who were young adults aged between 17 and 30 years from various fields of work or study. A key criterion for forming the group was the absence of design training, which was the objective of our study, ensuring that the analysis was not influenced by prior knowledge in the area. A total of 11 participants took part in the interviews, which were conducted in person.

In the fourth stage, the data obtained from the interviews were analyzed and synthesized using content analysis, following the categorical approach proposed by Bardin (2016), with the support of the ATLAS.ti⁶ software. The process involved segmenting the data, where the collected information was divided into coded textual units. These units were then organized and classified into categories, following semantic and syntactic criteria, in order to structure the interpretation of the results.

- 1 https://www.instagram.com/p/Coj3kmBJdxE/?img_index=1
- 2 https://www.instagram.com/p/C1JznDoPMrW/?img_index=1
- 3 https://www.instagram.com/p/CxeR-UTLPJz/?img_index=1
- 4 https://www.instagram.com/p/CqigzKyLCBL/?img_index=1
- 5 <https://www.instagram.com/p/CWAwkLlIxQZ/>

- 6 <https://atlasti.com/>

4 Results and discussion

Following the established procedures, eleven young participants, aged between 17 and 30 years, from different fields of study, were interviewed (Table 2). The focus group was composed exclusively of participants with no design training, ensuring that the analysis of the posts was not influenced by prior knowledge in the field.

Table 2 Profile of the interviewees.

Interviewee	Age	Gender	Education level	Professional field
Interviewee 01	23	Non-binary person	Undergraduate	Veterinary Medicine
Interviewee 02	17	Cisgender man	High school student	Not applicable
Interviewee 03	29	Cisgender man	PhD candidate	Law
Interviewee 04	27	Cisgender woman	Bachelor's degree	Law
Interviewee 05	29	Cisgender woman	Bachelor's degree	Architecture
Interviewee 06	28	Cisgender man	Bachelor's degree	Dentistry
Interviewee 07	29	Cisgender woman	Bachelor's degree	Information Technology
Interviewee 08	19	Cisgender man	Undergraduate	Computer Science
Interviewee 09	30	Cisgender woman	Undergraduate	Food Engineering
Interviewee 10	30	Cisgender woman	Postgraduate degree	Dentistry
Interviewee 11	25	Cisgender woman	Postgraduate degree	Social Work

Initially, each interview was analyzed individually for each post, allowing for the subsequent coding and categorization of the information. The first post presented to the interviewees (Figure 1) was classified as appropriate by the expert authors and concerns content produced by the *Instituto Serrapilheira* about the use of substances in the textile industry with potential adverse effects on health.

The vast majority of interviewees positively evaluated the choice of typography, the amount of text, the language used, as well as the images and colors, and showed a clear understanding of the content. Interviewee 9 highlighted that the use of subtitles in each post helped maintain attention on the narrative. Only three interviewees mentioned that the font size in the body of the text could be slightly larger.

It is observed that the carousel post presents a **visual unity** (Pentak & Lauer, 2014, pp. 28–30), meaning there is consistency among the elements that compose the material, resulting from the repetition of shapes and the similarity of colors. Additionally, in carousel posts on Instagram, the use of elements that connect one post to the next also contributes to creating this visual unity, as highlighted by Interviewee 9: “I liked that throughout the carousel there were small figures in the posts that connected them to each other.”



Figure 1 Post 01: Why your clothes might be poisoning you (Instituto Serrapilheira, 2023).

The second post was published by the Instagram page *Nunca Vi 1 Cientista*, describing the presence of fungi in food, its impacts on human health, and providing a list of foods that can and cannot be consumed after removing the visibly affected area (Figure 2).

From the interview, the most commented aspect by the interviewees was the alternating background colors, from purple to white and vice versa, with each post. Eight interviewees mentioned that this change caused visual discomfort, making it difficult to read the sequential content. Interviewee 2, when asked about elements that hindered the understanding of the text, stated: “Just the sudden change of colors, I was used to the purple background and orange text, and when it switched to the white background, it distracted me.” This feedback reinforces the importance of visual unity, as breaking patterns can cause distraction and make it harder to continue reading (Pentak & Lauer, 2014, p.32). Interviewees 7 and 8 also highlighted the excessive use of colors, which, for them, resulted in a **lack of color consistency**.

Regarding the typography used, it was generally well evaluated; however, four interviewees did not like the font used in phrases like “Do you have to throw it away?” and “both conventional and vegan.” Interviewee 10 mentioned that, in addition to these fonts not matching the aesthetic proposal of the post, they caused difficulty in reading.

Regarding the amount of text, six interviewees considered the **text density excessive**, as mentioned by Interviewee 8: “The amount of text is huge, and

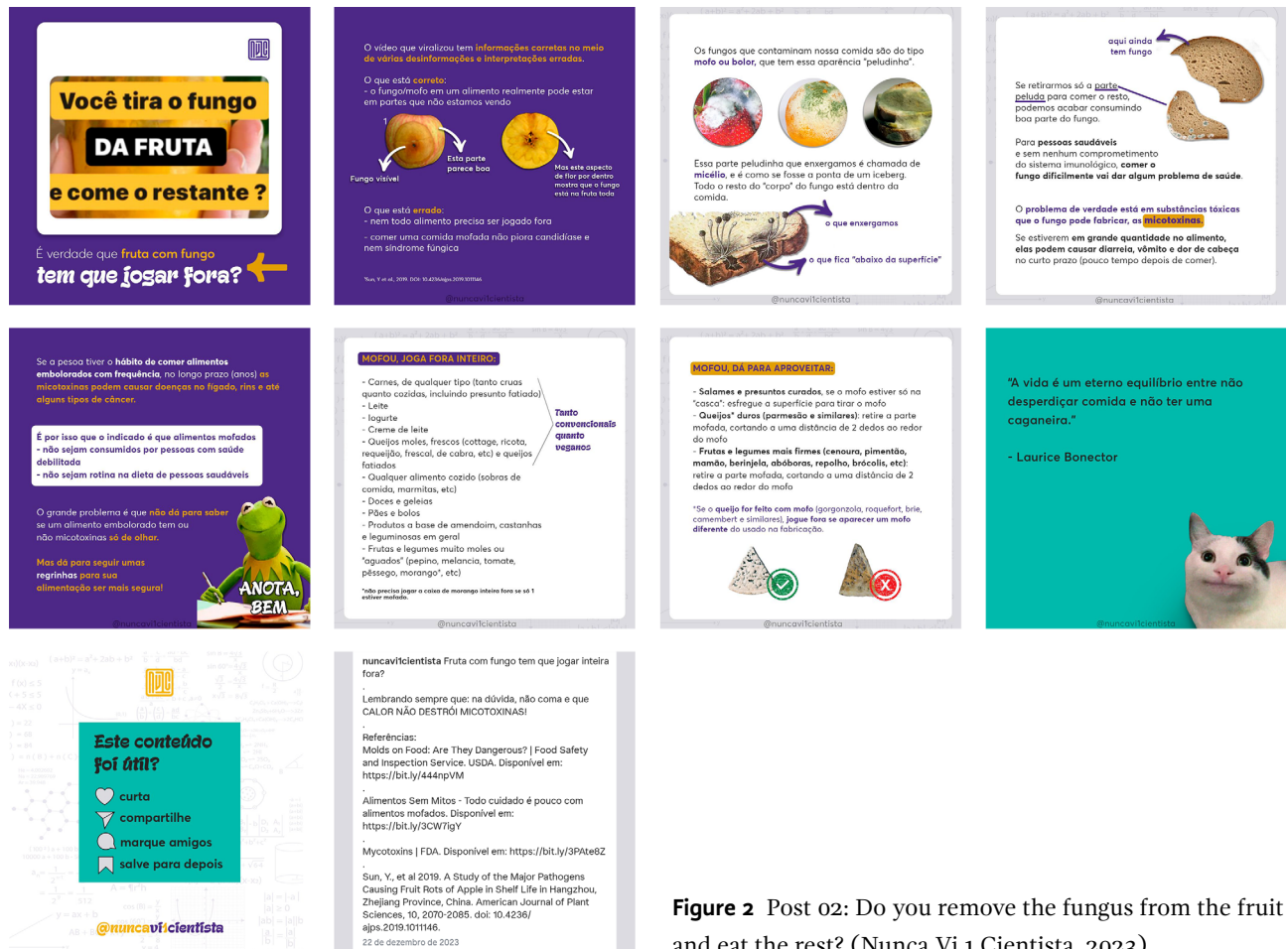


Figure 2 Post 02: Do you remove the fungus from the fruit and eat the rest? (Nunca Vi 1 Cientista, 2023).

honestly, it's a post I would skip if I were scrolling through my Instagram feed. It's very explanatory and interesting, but we live in an era of so much quick information that it doesn't 'stick' enough."

The illustrations showing the presence of fungi on food were well-received by all the interviewees. Interviewee 10 added: "The images used explained how we can differentiate the foods that contain fungi and which ones we can discard or reuse." However, there were some critical comments. Interviewee 9 reported not understanding the cover image, finding it confusing, and Interviewee 8 pointed out: "Some of the images were of horrible quality, which was slightly irritating." These comments highlight the importance of using images with good clarity (Lipton, 2007).

Another point identified by three interviewees was the **lack of visual hierarchy**. Interviewee 6 mentioned: "I felt that, at some moments, the way the information was organized was a bit confusing, but in the end, I was able to understand." Interviewee 8 also reported that the amount of text, images, arrows, and markings made it difficult for them to know where to start reading.

The third post, produced by the Instagram account *Genéricos e Similares*, discusses the interchangeability of medications and presents a diagram showing which types of medications can or cannot be interchangeable (Figure 3).



Figure 3 Post 03: Want to know more about the topic of interchangeability? (Genéricos e Similares, 2023).

The element that presented the greatest difficulty in comprehension was the diagram in the third post. Seven interviewees reported not understanding the schematic figure or taking longer than necessary to interpret it. Interviewee 2 commented: “I thought the diagram didn’t help, it confused me a lot, the presence of arrows in two directions, but then, when I read about interchangeability, I saw that it was possible to swap one for the other.” This situation reinforces the observations of Gates (2018), who points out that confusing diagrams increase cognitive complexity and hinder understanding.

Another element that generated criticism was the typography used. Five interviewees considered the **typographic style inadequate**, as the letters were narrower, making reading difficult. Additionally, three interviewees highlighted the difficulty in reading due to the **low text-background contrast**, which leads to the issue of color usage. Five interviewees found the colors too “intense,” as reported by Interviewee 11: “I thought the colors were vibrant, they seemed to ‘clash.’ I didn’t find it harmonious.”

Finally, regarding the content, six interviewees reported not being able to fully understand the post, mentioning that the **amount of information was insufficient** to clarify the content. Interviewees 4 and 5 stated that they needed to read it twice to understand, as it contained **technical language**.

The fourth post, published by the Instagram account *Nde3*, discusses the biological clock of corals (Figure 4). The main element criticized by the interviewees was the **low text-background contrast** due to the use of background images, which made it difficult to read the overlaid text,

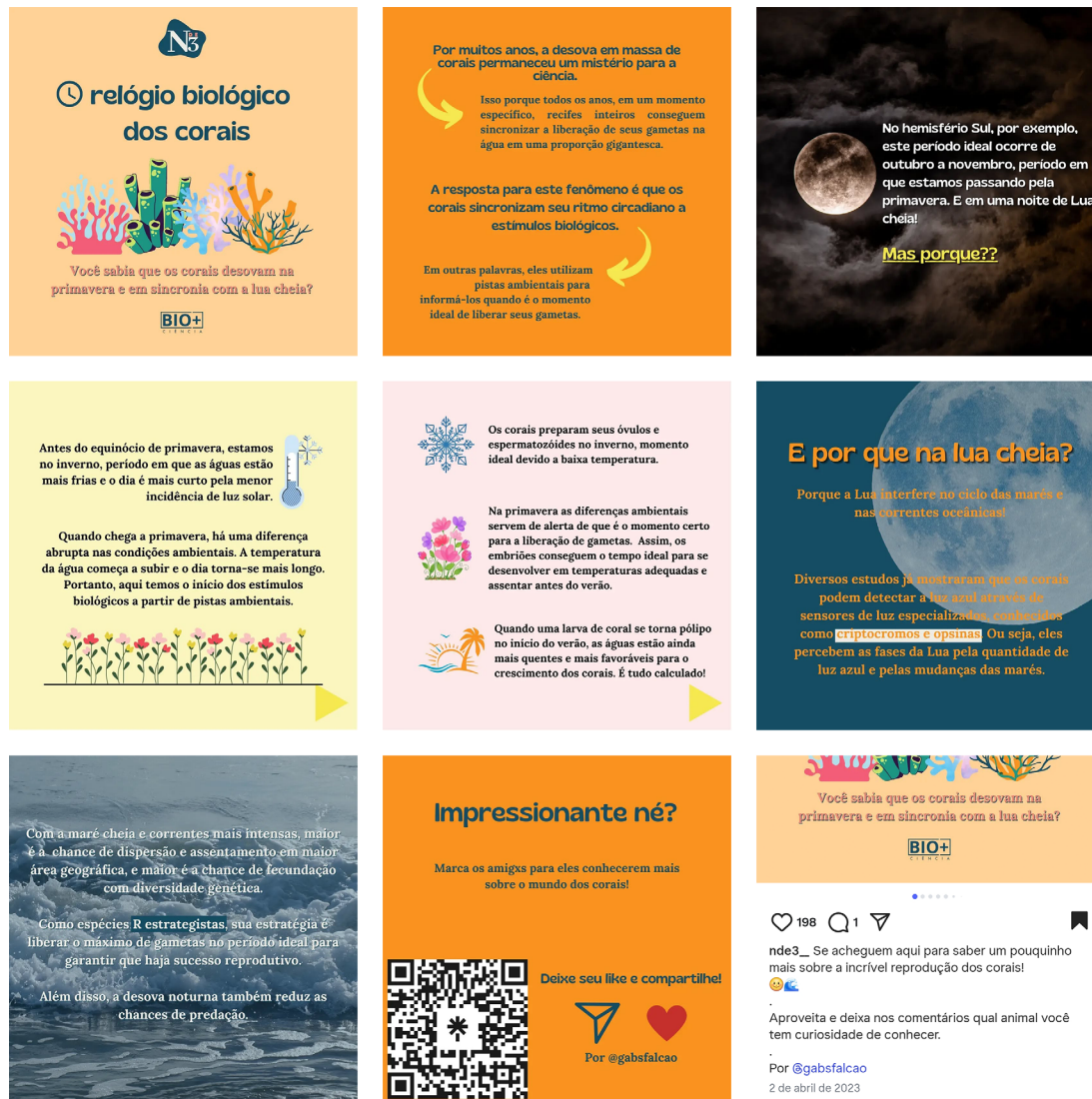


Figure 4 Post 04: The biological clock of corals (Ned3, 2023).

as mentioned by 8 interviewees. Interviewee 2 stated: “In the last slide, with the tide image behind, it was hard to read. The sudden color changes bothered me a lot; it seemed like they just put a bunch of random images without following a theme.” This alternation between posts with solid backgrounds and posts with image backgrounds was perceived by three interviewees as a **lack of visual unity**.

Regarding the typography, eleven interviewees approved of the font used, although five mentioned the lack of contrast in the last sentence of the first post. As for the content, it was well-rated, with only 2 interviewees not fully understanding it. Interviewee 9, although considering the narrative fluid, still believes they would give up reading the post halfway through on a normal day due to the **excessive textual density**.

The fifth post, published by the Instagram account *Ser Cientista*, discusses types of fermentation (Figure 5). The main obstacle to comprehension, according to the interviewees, was the typography. Ten interviewees found

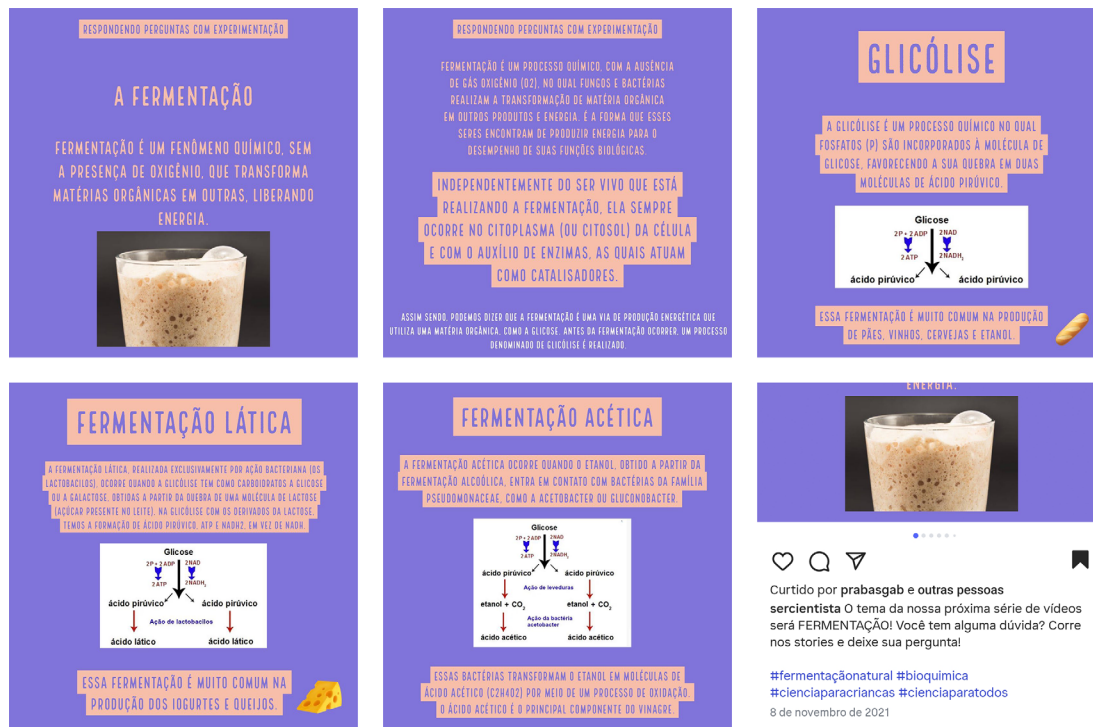


Figure 5 Post 05: Fermentation (Ser Cientista, 2021).

the font too narrow, making it difficult to read. Interviewee 3 reported that they found the typography poor in terms of both the font, size, and color applied.

The low contrast between the colors was another aspect mentioned by six interviewees. Interviewee 9 stated that they did not find the colors attractive, and the low contrast caused visual discomfort.

The figures and diagrams were also subject to criticism. Seven interviewees reported difficulty in understanding the content through the images. Interviewee 9 observed: “The chemical reaction diagrams seem to have been taken from a book, which, in my view, weakens the post.” This same comment was reflected in the content used in the post. At least three interviewees had the impression they were reading something copied from a book, with a more technical language.

The initial analysis revealed that researchers without a background in design struggle to apply its principles, resulting in artifacts with flaws noticeable even to other non-specialists. In contrast, the post by the *Instituto Serrapilheira*, created by a communication team, was the highest-rated by the interviewees.

In the second phase of the research, the aim was to code and classify the problems identified by the focus group using ATLAS.ti software. Eighteen codes were generated, organized into five categories from 161 citations, as illustrated in Figure 6 and Table 3.

From the categorization, the most frequently cited problems by the interviewees were identified. The most mentioned category was *Color and Contrast*, particularly due to the inappropriate use of colors, which

impaired legibility. In second place was *Typography*, with emphasis on the inadequate scale and typographic style. Next, the categories *Text and Composition* and *Comprehension and Visual Composition* emerged, where the main issues were excessive text density and technical language, as well as the lack of structure and visual hierarchy in the posts, resulting in an overload of elements and disorganized color variation. Finally, in the *Image* category, the main issue was the lack of functionality of the illustrations, which often did not contribute to the understanding of the text.

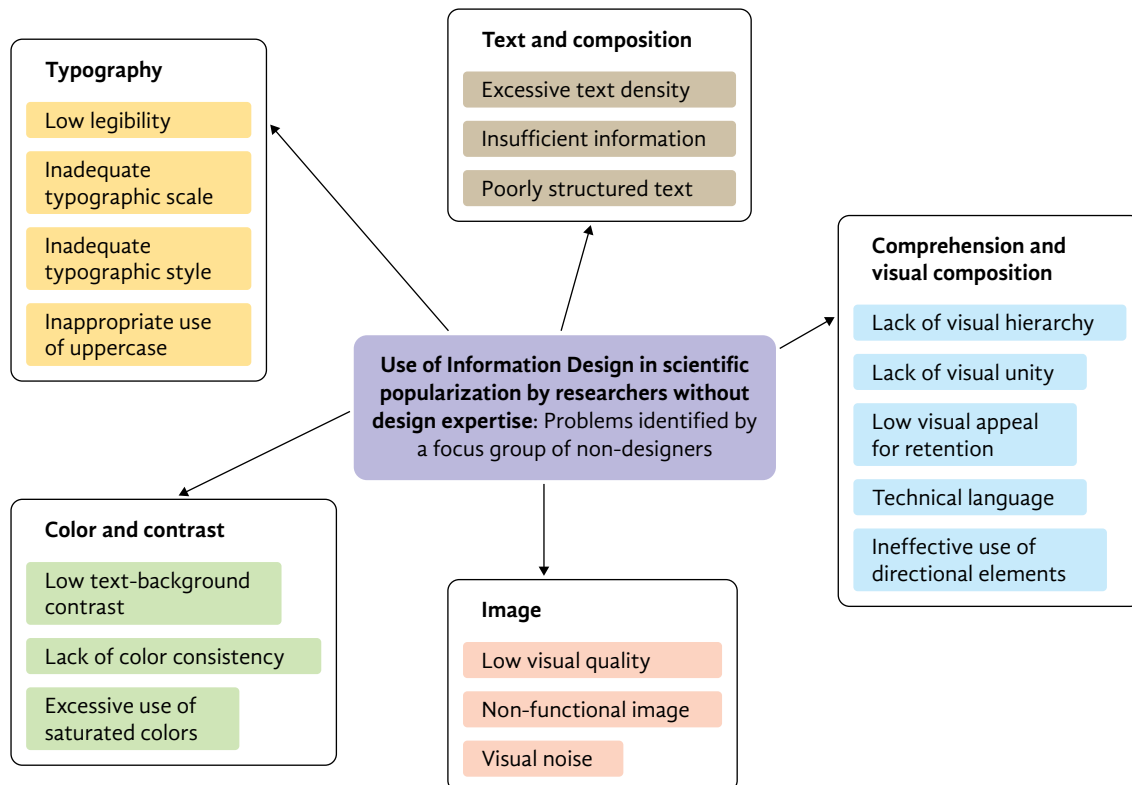


Figure 6 Use of Information Design in Scientific Popularization by researchers non-specialized in Design: Problems identified by the focus group of non-designers.

Table 3 Number of citations of the characteristics addressed by the interviewees.

Categories (groups of codes)		Total number of occurrences (citations) per category	Number of codes
	Typography	36	4
	Text and composition	30	3
	Image	23	3
	Color and contrast	42	3
	Comprehension and visual composition	30	5
Total		161	18

From this analysis, it is observed that the levels of difficulty faced by the interviewees in understanding the content follow an order of importance, starting with legibility as the essential aspect, followed by visual hierarchy, and finally, visual unity (Figure 7). **Legibility** is the primary factor for understanding information, requiring the adaptation of text for different devices and screen sizes. For this, the appropriate choice of font, color, size, weight, typographic style, and spacing is essential to ensure clear and accessible reading (Flynn, 2018; Cui et al., 2023). **Visual hierarchy**, in turn, plays a crucial role in guiding the reader, highlighting key information, differentiating primary and secondary content, and organizing the layout according to the importance and relationship between visual elements (Lipton, 2007). Many interviewees pointed out excessive text density as an obstacle to reading, which could have been alleviated by segmenting the content into subtitles, providing a smoother experience. Finally, **visual unity** contributes to the continuity of reading and reduces distractions (Pentak & Lauer, 2014, pp. 28–30). The lack of standardization in the analyzed posts was a factor frequently mentioned by interviewees as detrimental to concentration and content assimilation.

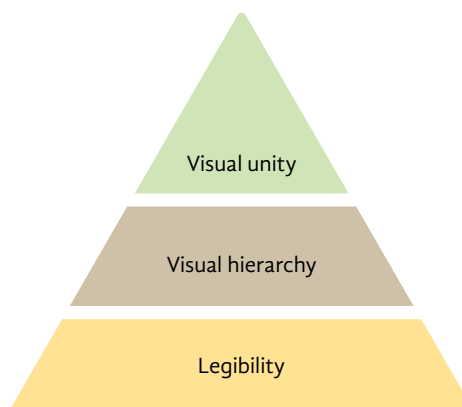


Figure 7 Levels of influence of Information Design aspects on content comprehension.

These findings demonstrate that, even without formal training in design, the interviewees perceive that the artifacts produced by non-specialists show weaknesses in ID that compromise the reception of the analyzed posts. This reinforces the need for greater attention from non-specialist producers to aspects such as typography, colors, images, and visual composition in scientific popularization. To ensure greater accessibility and effectiveness in the transmission of information, it is essential that scientists who are not specialists in design incorporate ID principles or rely on professionals specialized in the creation of these materials. Furthermore, it is suggested that ID courses be included in undergraduate and graduate programs across various fields, in order to better prepare researchers for visual communication in the context of scientific outreach.

5 Final considerations

The gap between scientific language and society remains a challenge, especially because many researchers are not prepared to translate this knowledge in an accessible way. ID emerges as an ally in this process, by organizing and presenting data clearly and effectively, focusing not only on form but also on translating complex data expressed through graphic language.

This study analyzed the impact of knowledge of basic ID principles among scientists without specific training in the field who share content on Instagram, evaluating how this factor influences public comprehension. The results indicated that the lack of mastery in aspects such as typography, color, and organization compromised the clarity of the posts. The main issues identified were low text legibility, lack of information hierarchy, and lack of visual unity, which hindered reading, guidance, and concentration, respectively.

In this context, to make communication more accessible and effective, scientists without Design training should apply ID principles or seek support from qualified professionals in creating these materials. Another relevant strategy would be the inclusion of ID courses in undergraduate and graduate programs, empowering researchers for more efficient visual communication. Future studies could explore, in addition to visual presentation, how the process of translating scientific language into a more accessible one, based on ID principles, influences scientific outreach. This includes vocabulary adaptation, simplification of concepts, and the reorganization of information in a way that enhances public understanding.

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