



Science and children's literature: an analysis of the narratives created by GenIA

Ciencia y literatura infantil: un análisis de las narrativas creadas por GenIA

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Abstract

GenIA is increasingly present in our lives, and in this way also in education, being used in school environments and even by children, in the construction of children's literature. This article aims to examine the use of GenIA in the production of children's literature linked to Science. Using an exploratory qualitative methodology, six narratives generated by two AI applications (Story Spark and Gamma) for storytelling were investigated. The stories were of the adventure genre, involving scientific activities related to insects and followed the same three elaborated *prompts*. Content Analysis was followed to analyze the text and images. The results showed that GenIA used to create the stories was not able to construct narratives free of stereotypes or conceptual errors. The Chatbots did not present gender equity in their entirety, and when there was partiality, the attributions to the characters remained fixed, giving the male character a more exploratory role and the female character an assistant role in the scientific activities. Some stereotypes of scientists were reinforced by the male protagonism and the need to be intelligent, and even by the use of glasses in nature exploration activities in the images. The results indicate that teachers and parents need to be careful when guiding the use of GenIA for children.

Keywords: stories, sciences, stereotypes, conceptions, concepts, scientists.

Resumen

Actualmente, GenIA está cada vez más presente en nuestras vidas y, de esta manera, también en la educación, siendo utilizada en entornos escolares e incluso por los niños, en la construcción de literatura infantil. Este artículo pretende examinar el uso de GenIA en la producción de literatura infantil vinculada a la Ciencia. Utilizando una metodología cualitativa exploratoria, se investigaron seis narrativas generadas por dos aplicaciones de IA (Story Spark y Gamma) para el uso del Storytelling. Las historias eran del género de aventuras, las cuales involucraban actividades científicas relacionadas con los insectos y seguían los mismos tres *prompts* elaborados. Se realizó un análisis de contenido para estudiar el texto y las imágenes. Los resultados mostraron que la GenIA utilizada para crear las historias no fue capaz de construir narrativas libres de estereotipos o errores conceptuales. Los chatbots no presentaron equidad de género en su totalidad; y cuando hubo parcialidad, las atribuciones a los personajes permanecieron fijas, otorgando al personaje masculino un rol más exploratorio, y al femenino un rol de asistente en actividades científicas. Algunos estereotipos de los científicos se vieron reforzados por el protagonismo masculino y la necesidad de ser inteligentes, e incluso por el uso de lentes en actividades de exploración de la naturaleza en las imágenes. Los resultados indican que los profesores y los padres deben tener cuidado al orientar el uso de GenIA para los niños.

Palabras clave: historias, ciencias, estereotipos, concepciones, conceptos, científicos.

1. Introduction

Artificial Intelligence (AI) has made significant advances in its use and communication, impacting various sectors, including education. Tools such as Chatbots and adaptive learning platforms offer personalized support to students, while data analysis allows difficulties to be identified and teaching to be optimized. As a consequence, this has been causing concern, especially in the stages covering the initial years of Basic Education, with research seeking to understand the impacts of the use of AI in the school environment, and the implications that these may also have on students and their development.

In this context, AI has been improving, subdividing into traditional or narrow AI: designed to solve problems, respond to a specific set of inputs, excel at pattern recognition, and make predictions based on pre-existing data (Page et al., 2018; Schlegel and Uenal, 2021); and generative AI (GenAI), designed to create new and original content or data based on the patterns it has learned from its training data (Dwivedi et al., 2023).

Firat and Kuleli (2024) highlight in their research that ChatGPT has been widely perceived by users as an educational tool with great transformative potential, capable of revolutionizing teaching methods, promoting personalized learning, reducing differences in access to education, stimulating critical thinking and interactive learning, facilitating the creation of pedagogical content, and improving interaction between teachers and students. However, the authors emphasize the need for additional empirical research and a cautious approach to their implementation, including the development of ethical and practical frameworks to ensure that their use is effective and responsible.

In this educational context, one of the productions that has stood out is the creation of children's stories, with chatbots specifically for that purpose and which are available in the market and are widely recommended by YouTubers through digital media. Some YouTubers have even been teaching the steps and encouraging it as a simple way to create books in a few hours, which is causing concerns in experts of literature and education by the low pedagogical quality in terms of content, and by the fact it has been produced by AI without paying attention to aesthetic aspects (Nicoceli, 2024).

When we mention chatbots, we refer to software tools designed and trained to mimic human interactions and engage in spontaneous real-time conversations with humans, using Natural Language Processing (NLP), whose goal is to understand what the end user is trying to say and formulate the appropriate response. Chatbots are therefore interactive systems that communicate with users through natural language (AbuShawar and Atwell, 2015; Allouch et al., 2021).

In education, these systems perform different tasks, including solving students' doubts, encouraging participation and assisting in dialogues in other languages (Paschoal et al., 2022; Benotti et al., 2014; Ayedoun et al., 2015).

Currently, there are several programs on the market as chatbots tools that perform very diverse tasks such as writing code, generating images, composing emails, as well as formulating scripts and stories, including children's narratives. Thus, there are specific chatbots for children's literature content, capable of creating stories, personalizing the protagonists and even illustrating; in some cases, they can even download digital books. Thus, AI has proven to be an innovative tool also for children, opening new possibilities for developing creativity, literacy and critical thinking; however, it can also have consequences if used inappropriately.

It should be noted that reading and everything related to it is one of the most important skills that children should develop in the early years of schooling, as it is the basis for all subsequent learning. Thus, children's literature should not be conceived in a reductionist way as an exclusively didactic instrument, but as a multifaceted field that brings together pedagogical, aesthetic, ludic and subjective functions.

As Cadermatori (2010) argues, literature addressed to children plays a structuring role in the development of language and in the expansion of the child's sensory and cognitive possibilities. The author emphasizes that systematic contact with literary texts, especially fictional narratives and poetic compositions, favors not only the ability to write, but also the construction of a denser linguistic and cultural repertoire, capable of sustaining processes of expression, comprehension and symbolic elaboration of reality.

Thus, well-developed children's stories, with clear and appropriate contents, help beyond entertainment, since they provide the reader with informative content, which motivates them to develop their imaginative capacity, thus contributing to the formation of the subject.

Scientific literacy is part of this training. To define it, Chassot (2003) explains that Science is also a language, and should be appropriated with a view to building a better understanding of the world we live in, expanding the possibilities of children's experiences so that they can approach and appropriate scientific knowledge. Therefore, literature can contribute in this sense, since it aims to inform and educate, playing an essential role in the formation of the subject.

Literature, understood as formative, can be articulated with different areas of teaching; and the teaching of Science, in the initial years, deserves this emphasis, because despite the need to be present at this stage of teaching, in line with Portuguese and mathematics, research has shown that it is often understood as adjuvant teaching (Rosa et al., 2007; Goldschmidt, 2012).

Given that children's stories are a resource accessible to any teacher, exploring all areas of knowledge, including Science, is something that can help foster scientific literacy.

Mondek et al. (2019, p. 187) note that «the contributions that children's literature brings to the teaching of Science are notable, as it can contribute to the formation of critical readers, the construction of citizenship and the rethinking of attitudes».

The inclusion of literature in the context of teaching different curricular components, such as Science, should not be conceived under an instrumental or reductive logic, which restricts it to the function of mere thematic support or introductory motivator of school contents. On the contrary, it is a matter of recognizing the epistemological and aesthetic complexity of literary texts as devices capable of stretching and broadening the understanding of the objects of study, enabling more integrative, sensitive and multi-referential approaches. In this sense, Pirôpo and Boccardo (2017) point out that the use of literature in the school environment requires a perspective that values its semantic density, its symbolic power and its ability to provoke changes in meaning, contributing to the construction of more critical,

imaginative and sensitive looks on the phenomena addressed in the curriculum.

Therefore, using AI as an ally in this process can be a challenge, but it can also be a viable alternative, and if it is well conducted it can generate interesting and formative alternatives and repertoires to work in science teaching more efficiently.

At the same time, the use of GenIA in the creation of stories with and for children raises important questions about the appropriateness of the content generated and the influence of technology on students' creativity and autonomy. This process should be investigated and monitored with a critical eye and clear guidelines, always seeking to benefit the integral development of children.

Azevedo et al. (2024) indicate that children interact with mobile devices, educational applications and digital entertainment platforms, which are important for their personal development. They also argue that as technology advances, Artificial Intelligence (AI) is also part of this acquisition, reaching the production of literary content, such as children's storytelling, which not only allow the creation of personalized and adaptable stories, but also open new possibilities to stimulate creativity, promote inclusive values and facilitate interactive learning. These, according to the authors, have the potential to shape narratives for children in innovative ways; however, it is essential to investigate whether these are free of bias.

Breunig and Goldschmidt (2021) also warn about the need to be careful with the types of stereotypes that can be reinforced or even constructed from children's stories; besides, the authors reinforce the role of the teacher in this process, as they demonstrated in their studies that through their perception and action, it is possible to act with the use of children's literature as a relevant tool to demystify possible fragmented views that are consolidated during the child's development.

Socio-cognitive theory (Bussey and Bandura, 1999) suggests that children assimilate gender stereotypes through gender-related information, which is then stored in long-term memory (Schneider, 2004). Thus, stories influence children by providing comprehensive examples of typically masculine or feminine contexts and typically masculine or feminine character traits (Steyer, 2014). Hamilton et al. (2006) point out that equal representation has not

yet been achieved and that the quality of these representations can influence children. Unfortunately, analyses of children's books have shown that even the most recent ones still convey a large number of traditional gender roles and lack major female characters (Jürgens and Jäger, 2010).

Thus, with respect to stereotypical characters in children's stories, it is of utmost importance that the teacher is attentive and promotes discussions and reflections in the classroom, in order to broaden the possible «biased» visions that children may construct (Breunig et al., 2023).

Other cautions are associated with the writing of the narratives created. Although chatbots are considered trained AI tools with responses that may appear human-like, there are many concerns and even opposition regarding the negative potential in relation to textual creation; because, according to research, inaccuracy in information and content quality, in the case of a study with Chatbot GPT, was highlighted by 85 % of editorial executives as the main concern when facing the use of generative AI platforms, which may occasionally generate incorrect information, produce harmful instructions or biased content (Eke, 2023; Van Dis et al., 2023; Ramos, 2023).

Given the above, we understand the importance of children's literature and its interfaces with Science and that the use of AI may be one of the ways to contribute to this process, but deserves to be investigated. Thus, the aim of this research is to critically examine the use of GenIA through specific narrative chatbots, in the production of children's literature linked to Science, in terms of promoting scientific stereotypes and concepts presented in the story.

2. Methodology

This research has a qualitative approach (Gil, 2017), with an exploratory nature, which according to Severino (2013), seeks to gather information about a specific object, delimiting a field of work. Regarding the nature of the research, it is a documentary research, since according to the same author, documentary research not only deals with printed documents, but also with other types of archives such as newspapers, photos, films, recordings, legal documents.

Initially, we resorted to the construction of a bank of children's stories, developed from two specific chatbots, which met the following criteria: 1. Be available on the Product Hunter platform that uses AI to create children's narratives; 2. Be freely accessible or allow a free narrative; 3. Allow the creation of narratives in different languages; 4. Accessible use by school-age children; and, 5. Jointly illustrate the children's story.

The theme was «a scientific adventure about insects» and the applications received identical prompts for literary production. Focused on text structure, characters and their characterization, and presentation of scientific concepts.

For each of the Chatbots, three narratives were created using three prompts:

- (a) «Create a children's story, for an audience of 6 to 8 years old, whose story belongs to the adventure genre, and which narrates a scientific study on the different types of insects and their characteristics»;
- b) «Create a children's story, for an audience of 6 to 8 years old, whose story belongs to the adventure genre, and which narrates a scientific study about the different types of insects and their characteristics, demystifying the existing myths about them».
- c) «Create a children's story, for an audience of 6 to 8 years old, whose story belongs to the adventure genre, and which narrates a scientific study conducted by characters related to Science about the different types of insects and their characteristics, demystifying the existing myths about them».

The narratives had their texts analyzed in their entirety, based on Bardin's (2016) content study, with the categories listed; the images produced by AI were also studied. The analysis was conducted in three stages: pre-analysis; exploration of the material and processing of the results; inference and interpretation. The categorization process involved organizing and classifying qualitative data into thematic categories. Initially, the material was explored to identify relevant units of meaning. This was followed by coding, a stage in which these meanings were grouped into categories or classes, based on criteria of similarity or theoretical relevance. This was followed

by categorization, seeking to simplify and organize the information to allow a deeper and more comprehensive analysis of the content, contributing to the identification of patterns, relationships and new interpretations within the corpus studied.

The chatbots for creating stories were:

1. Story Spark: available at <https://storyspark.ai/pt>. This is not a free website, so the demo option was used. Thus, a different account had to be used to create each story. Upon creating the account, the user logs in and is prompted to create a story. When asked for the topic of the story, the message was entered and the reading level, «developing readers» and Brazilian Portuguese language were added. No moral of the story, no character description, no special needs were added. The requested pages were 14 (the lowest number). Click on generate story. An image was automatically generated for each card. Three stories were created, with three different logins, one for each request. As it was not possible to download the book in PDF format in the free version, each card was copied using the Ctrl+PrtSc command and taken to

Paint, then pasted as an image in PowerPoint and saved as a PDF, with the book downloaded in its entirety.

2. Gamma: available at <https://gamma.app/>. After registering, the process of creating the book began, using the «create new» or «create with AI» command from the prompt, choosing the popular format. Ten cards were selected in Portuguese, with an average amount of text. Subsequently, the theme was marked and generated with color images. There are no restrictions on the number of productions. The same procedures were carried out for each of the messages. The books were downloaded to the computer.

3. Results and discussion

The results of the analysis of the models generated by GenIA show that they were able to create stories for children responding to specific prompts. Table 1 presents an overview of the characters and Table 2 provides a summary of the narratives, character stereotyping, and conceptual errors encountered.

Table 1. Results of the children's stories created by the chatbots for the characters

Chatbots	Stories	Characters	Number
Story Spark	“Insect Adventure”.	A child	1
	“Insect Adventure”	One child	1
Gamma	“Max and Ana’s Scientific Adventures.”	Max and Ana	2
	“The Incredible World of the Insects”	João and the beetle	2
	«The Mystery of the Miraculous Insects”	Bia, Lucas and Mariana	3
	«The Little Scientist and the Adventure of the Insects”.	Gustavo, Júlia and Marcos	3

Note. Research data (2025).

Table 2. Summary of narratives developed by AI, stereotypes and conceptual errors identified

Prompt 1: No restriction	Prompt 2: restriction from concepts	Prompt 3: restriction from characters	Stereotypes	Errors Conceptual
Story Spark				
It narrates the adventures of a boy who decides to explore nature near his home. He takes notes and observes some species, describing interesting facts. When he returns, he wants to share it with his family.	It narrates the adventures of a boy who decides to study insects. He observes some of them in the nature and returns happy because he has learned some curious facts.	It narrates the adventures of two children who loved to explore nature and set out an expedition in the forest. Through observations, collecting and recording, they learn about the diversity and curiosities of some species. They return happy and share with the class.	There is partial gender equity in one of the stories, but there is no exchange of activities in the narrative, nor in the images. The "explorer/discoverer" is the boy, and the girl takes notes and records. It even mentions aspects of clothing and colors,.	Story 1: The boy found a spider spinning its web. He learned the spider's ability to create such complex patterns.
Gamma				
It narrates the adventures of a boy with his talking beetle, exploring the garden to discover the world of insects. The child is full of energy and curiosity, he loves to explore the nature. They learn about diversity, habitats, development cycle, Pollination, predation tricks and the importance of respecting these animals.	It narrates the adventures of a group of curious friends who explore the forest near their home. Through observations, collections and records, they learn about the diversity of insects, classification, species beneficial in nature, harmful species, adaptations in nature, curiosities, species that live in colonies, communication between species and the importance of preserving the group.	It narrates the adventures of a boy and two friends, who embark on a scientific expedition in the city park to discover the world of insects. Through observations, collections and recordings, they learn about diversity, habitats, locomotion, communication, adaptation, and the importance of respecting these animals. They realized on the expedition that many people are afraid of these animals, but discovered that most of them are not dangerous. The expedition was full of fun and learning moments, turning them into young scientists.	There is partial gender equity in two of the stories and the activities developed are not gender specific. Although there is gender representation in the third story, there was more prominence in the male figure, both in the verbal construction and in the images.	Story 2: (a) Insects are one of the largest kinds of animals in the world; b) Many people believe that all spiders are poisonous, but in reality only a few species are dangerous to humans.

Note. Research data (2025).

The six texts created maintained the traditional narrative structure, with introduction, development, climax and conclusion. They presented characters who lived scientific adventures, presented some curiosities about some species and in some narratives provided information about locomotion, adaptation, communication, habitats, development cycle and emphasized the importance of insects. As requested in message 3, the information presented was a little more detailed in the texts.

As for the conceptual errors found out of the six stories, these were present in two stories, both in the texts and in the images produced by the AI,

totaling four situations. Table 2 presents these errors, and it can be seen that they occurred in both chatbots investigated. It is important to mention that, in Gamma, this error occurred precisely in narrative 2, which according to *prompt 2*, should have been a story to demystify existing myths about insects. Instead, it reinforced common sense and incorrect myths. It presented the group as «one of the largest classes of animals» instead of considering it as the largest representative class with the largest number of species on the planet. The second error addressed the misclassification of spiders into the insect taxon. Goldschmidt et al. (2020) in their research with early

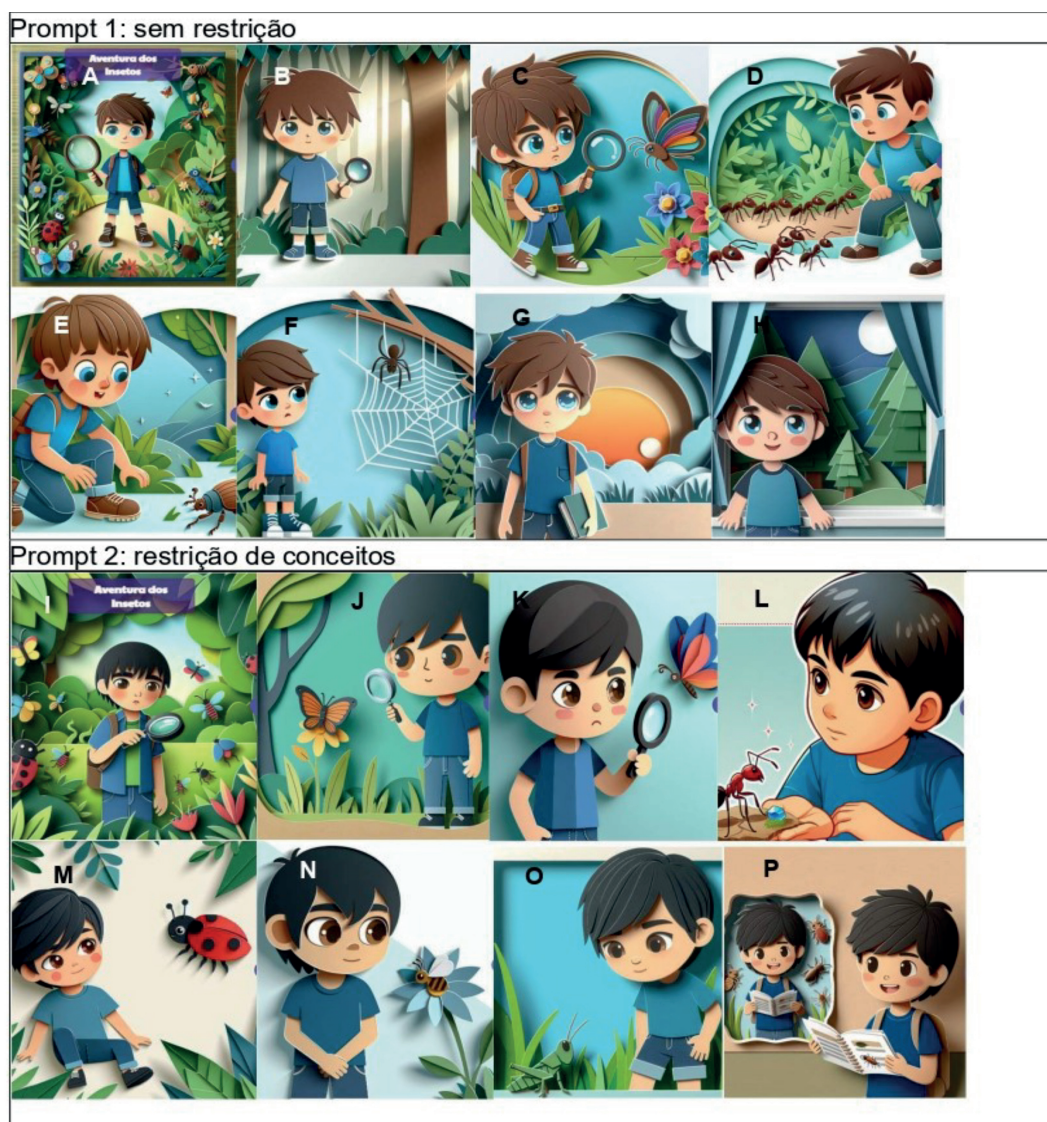
years students, identified that many children have a negative conception in relation to insects and associate that these animals are dangerous, and included as insects, scorpions and spiders, not recognizing the main characteristics of the group. The constructed narrative also reinforced this error.

Story Spark also presented a conceptual error in the creation of story 1, showing the same classification situation regarding spiders. In addition to presenting such a writing error, the same was reinforced with the use of images created by the AI, as shown in Figure F, of Table 3. Such an animal should not appear in the story, and in case it is inserted, it should be explained to the children that there is such

confusion when it is identified within this taxon, demystifying the myth.

As for the characters, it was possible to highlight in the texts and images the personification of some characteristics linked to scientific activities and gender figures, some of them sexist, through the characterization of clothing and clothing colors indicating models/colors to the genders (Tables 3 and 4). Special attention should be paid to this highlighting, as children learn gender stereotypes through exposure to the information contained in the stories, which can shape their understanding of the roles and behaviors associated with each gender (Seitz et al., 2020).

Table 3. *Characterization of characters by Story Spark and stereotypes identified*





Note. Research data (2025).

Table 4. Characterization of characters by Gamma and identified stereotypes.

Prompt 1: sem restrição	
Prompt 2: restrição de conceitos	
Prompt 3: restrição personagem e conceitos	

Note. Research data (2025).

It is important to highlight that regardless of the chatbot and *prompt* used, the characters created referred to child characters from 6 to 8 years old,

which is positive in the stories created by GenIA, since this personification when dealing with children of early school age indicates to the readers

that the child is capable of investigating, observing natural phenomena, exploring the environment, researching, recording and sharing knowledge. The American astronomer Carl Sagan stated in one of his interviews that everyone begins life as a scientist (Guimarães, 2007).

In fact, researchers and children have a curiosity that is always alive and present. For scientists, it is an essential trait, a professional necessity; and for children, something characteristic, innate and vital. It is necessary that this be maintained throughout life, and science education has the potential to encourage it even more.

Children, seeing themselves as investigators in children's stories, empower their action. They are able to explore the world around them, ask questions, test hypotheses and learn through observation, developing scientific skills. These discoveries often stimulate their interest and curiosity, essential characteristics in science. Literature can be a great ally, as children internalize what they see, hear and perceive through narratives. It is not about training a scientist, but about fostering the child's curiosity to learn, to explore the environment, and to investigate.

However, this opportunity given in the stories would have more value if the genres were taken care of, valuing both the equity and the attributions developed by the participants in the stories.

These points are important in children's literature because, according to Azevedo et al. (2024), they challenge established norms and minimize external criticism. According to the authors, fostering the courage and determination of the protagonists allows the community to accept individual differences, which contributes to the promotion of gender equality, providing values conveyed by the narrative, leading to a positive impact and a change in the community's attitude, resulting in the gradual elimination of gender stereotypes in the activities. Unfortunately, the chatbots used went against these ideas and did not take these precautions, as the results show.

It is worth highlighting the attention that needs to be paid, as these presented results indicate the importance of a teacher mediator in following the stories, or family tutors responsible for this activity, when children are playing with the tools. According to Seitz et al. (2020), stories often do not use such clear labels for gender-appropriate objects or behaviors; what they do is convey gender infor-

mation in a less apparent way, providing gendered information about the protagonists, such as using male or female names or highlighting typically male or female characteristics.

As seen, even in the images, where the boys appeared wearing blue clothes, and the girls in the forest sporting pink dresses and ribbon bows, or even, when in the stories, the boys were portrayed as explorers, and the girls as secondary characters, being «assistants» in scientific activities. While boys were exploring, touring, using magnifying glasses, identified in the images in Table 4 (Figures A, F and G) and Table 3 (Figures A through P, boys only; and in Q, R and S, with girls), girls were observing, taking notes and recording in their notebooks (Table 3, Figures Q, R, S and T).

In this context, it is assumed that gender stereotyped information is learned like any other type of information, and children relate it to certain objects, attributes or activities, as in the case of scientific activities, the act of manipulating using a magnifying glass, for example, and making records. It should be noted that in a scientific activity all phases are important; therefore, what is proposed is the exchange of roles. When children are in contact with texts and images without this care, they construct a bidirectional network between a person's gender and these objects, attributes and activities (Martin et al. 1990). This appearance of gender information can interfere and activate an associative network linking gender-associated properties in different content areas with gender information that may end up interfering with their conceptions and becoming fixed in relation to some stereotypes (Bauer et al., 1998).

Considering that these stories can be easily constructed by the children, by their parents or even in the classroom, this may be contributing to reinforce inappropriate stereotypes that, in terms of Science, exploring natural environments and carrying out scientific expeditions would be tasks linked to the male figure. When thinking about this relationship with Science, and the images that appear, the girl may be seen as a secondary actor in the process, without inserting herself in the same way in the scientific world.

This situation deserves to be highlighted, as it has been historically reinforced with historical accounts of women scientists throughout history, who, even when they worked in scientific research

and laboratories, and were married to scientists, did not see their scientific work encouraged or recognized. An emblematic example of the historical invisibility of women's contributions to science can be seen in the career of Marie-Anne Pierrette Paulze (1758-1836), wife and collaborator of Antoine Laurent de Lavoisier (1743-1794).

Although she played an active and substantial role in the couple's scientific activities (including translations of scientific treatises, experimental records, and technical illustrations), Marie-Anne has been systematically silenced in traditional historiographical accounts, which attribute exclusively to Lavoisier, the theoretical and experimental advances of that period. Pretto et al. (2023) denounce this omission by highlighting that, even in relation to laboratory tasks more directly linked to experimental practice, such as the preparation of materials and the recording of observations, Marie-Anne is rarely mentioned, perpetuating an androcentric logic of erasure of women in the history of Science.

By observing the images in Tables 3 and 4, one can perceive a reinforcement of the male figure linked to the scientist, which corroborates current studies on the conceptions of scientists. It is neces-

sary to raise awareness on this topic, alerting teachers to the risks involved in the use of chatbots, so that these elements do not go unnoticed, reinforcing an image of Science and scientists that is totally fragmented and stereotyped, of a genius, and most of the time, male, who only studies (Oestreich et al., 2021). Story Spark promoted this male stereotype and when it inserted the female figure, it did not promote scientific attributions equally.

Continuing with the stereotype situations, image H, presented in Table 4, deserves to be highlighted, as it refers to the use of *prompt* 3. When asked to tell the story of characters linked to Science, the children were shown walking in the forest, exploring the environment but wearing glasses, in addition to their magnifying glasses. This stereotype has also persisted in literature, giving the idea of a traditional stereotype of scientists, linked mainly to the male figure, as highly intelligent people with glasses. It is necessary to demystify these stereotypes and being aware of this situation is essential, especially in the early years.

Finally, the study sought to analyze the characterization of the characters. The results of this category can be seen in Table 5.

Table 5. *Characterization of characters based on representations in children's stories created by chatbots*

Subcategories	Gamma			Story Spark			ST	ST	ST	ST	T
	H 1	H 2	H3	H 1	H 2	H3	H 1	H2	H1 e H2	H3	
Studios/Smart	3	0	3	3	2	3	6	2	8	6	14
Discoverer/Discloser	1	2	5	1	0	2	2	2	4	7	11
Nature Explorer	2	2	2	1	1	2	3	3	6	4	10
Observer	2	2	2	1	2	1	3	4	7	3	10
In Love/Adoration	2	1	4	1	1	1	3	2	5	5	10
Excited/ Fascinated/	4	0	2	2	0	1	6	0	6	3	9
Excited	2	2	3	0	1	0	2	3	5	3	8
Curious	2	0	3	0	0	1	2	0	2	4	6
Teaching/Sharing	0	2	2	0	0	0	0	2	2	2	4
Adventurous/Courageous	0	1	0	1	0	1	1	1	2	1	3
Recorder	0	2	1	0	0	0	0	2	2	1	3
Creative Inventor	1	0	1	0	0	0	1	0	1	1	2
Play/fun	1	0	0	0	0	0	1	0	1	0	1
Full of energy											

ST: Sumatorio Total (el *prompt* se sumó separado, ya que este *prompt* se refería justamente a vincular el personaje a la Ciencia.
 Nota. Datos de la investigación (2025).

It can be observed that the characters presented common stereotypes, regardless of the message used, which made it possible to establish a more common profile, i.e., characterized mainly as «scholars, discoverers and explorers, passionate about what they do». The category allowed to identify thirteen subcategories, with no additional subcategories appearing when *prompt 3* was used, indicating that the use of the constraint to link the character to Science did not interfere with the characteristics of the adjectives. The fact that they previously mentioned that they engaged in scientific activities already granted them the same adjectives.

Among the most frequently cited characteristics, the subcategory «Studious, intelligent» stood out, indicating that they are characters who like to learn. In this subcategory, it was observed that when comparing the use of prompts without character restriction (1 and 2) with character restriction (3), there was a significant increase in their frequency. Breunig et al. (2021) state that it is common to find fragmented conceptions about scientists, which are highly influenced by movies, television and digital media in general, revealing Science itself as something unattainable, made by geniuses, which can even alienate children from science.

In a research conducted by Goldschmidt et al. (2014), the authors identified that scientists were mostly represented by men, young and serious, formed by inventors, crazy and smart, very dedicated to their experiments, which may contribute to the distancing of Science.

Although the central point was the intelligent attribute, this highlighting is opportune, because an advantage that is presented in the narratives and that should be valued, is the fact that these characters were idealized because they like to learn, but also to share their knowledge. When it comes to narratives for children, this situation is important, because it shows that these people who study and do science do not live isolated, contrary to what is often exposed in the media. This ability to teach and share knowledge helps children to understand the importance of socializing research results, and although the subcategory «Sharing» was not widely represented, it did show an increase when referring to the character related to Science.

Another subcategory that stood out was «Discoverer, Revealer», increasing significantly for

slogan 3. According to studies by Faria (2011) and Osório and Pechliye (2011), the image of the scientist portrayed by students corresponds to an intelligent being who performs experiments and discoveries. This idea of being associated with «discovering» needs further work, as Ferreira and Martins (n. d.) warn about the risks of this misconception. According to the authors, this vision reduces Science to a set of biographies of great figures or a set of chronologically organized reports on remarkable discoveries, identifying scientists as the great geniuses of Humanity, and not as ordinary people.

Breunig et al. (2020) argue that it is undeniable that many teaching materials continue to convey an image of a Science that progresses linearly to the detriment of geniuses and sensational discoveries, and they emphasize the role of teachers in acting as mediators of this fragmented information. Science cannot be understood as discoveries or findings, since there are many studies, joint systematizations, exchange of ideas, trials and errors, until the results are reached.

The other subcategories that stood out, but did not increase regardless of the message used, described the characters as people who are explorers of nature, observers, curious, passionate about what they do, excited and enthusiastic about knowledge and observations of nature. Such characteristics should be better elucidated and valued through contact with nature, as Goldschmidt et al. (2024) state, it is important to deepen discussions on the importance of the relationship between contact with natural environments from early childhood, intentionally proposing strategies in schools that encourage interest in nature. In this context, children's literature can be one of the ways to raise awareness, since, by reinforcing this naturalistic role and curiosity about nature, it will also be contributing to fostering children's interest in observing phenomena in the natural environment.

4. Conclusions

The exploratory analysis on the use of GenIA to construct children's narratives showed that the AI used was not able to construct children's narratives free of stereotypes or conceptual errors. The results indicate that teachers and parents should be careful when guiding the use of GenIA for young children.

Gamma and Story Spark did not present gender equity in the stories and when there was partial representation, the character assignments remained fixed, giving the male character a more exploratory role, and the female character an assistant role in scientific activities. Some stereotypes of scientists were also reinforced, such as male protagonism, being intelligent, and even the use of glasses in scientific activities.

A positive point presented by the narratives was to show that boys can also be explorers and researchers, as long as gender equity and the distribution of tasks are respected; in addition, the stories have highlighted the importance of sharing knowledge and experiences.

The results indicate the need for follow-up by mentors, whether family members or teachers, so that this information is not erroneously consolidated, since AI algorithms can generate stories with inappropriate, prejudiced or decontextualized messages and/or images.

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Contribution of authors

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