

## DIALOGICITY AS AN EDUCATIONAL PRACTICE WITH SIGNIFICANT SOCIAL IMPLICATIONS

A WORKSHOP WITH INDIGENOUS TEACHERS AND THEIR DEMAND FOR A NUMBERING SYSTEM

*A DIALOGICIDADE COMO PRÁTICA EDUCATIVA COM IMPLICAÇÕES SOCIAIS SIGNIFICATIVAS*

*Uma oficina com professores indígenas e sua demanda por um sistema de numeração*

*LA DIALOGICIDAD COMO PRÁCTICA EDUCATIVA CON IMPORTANTES IMPLICACIONES SOCIALES*

*un taller con docentes indígenas y su reivindicación de un sistema de numeración*

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### ABSTRACT

In this paper we explore the concept of dialogicity, taking a workshop offered to in-service indigenous teachers as a reference. This concept has been explored for decades in the academic literature. In recent years, it has gained greater importance, as official curricula in several countries have emphasized the importance of developing education that is more centered on the needs of learners. Although the general guidelines of these curricula are defined, the exercise of dialogue in classrooms involves the challenge of balancing the formal requirements of the various fields of knowledge with the students' own interests. Thus, in most cases, researchers examine dialogues in the classroom, verifying the extent to which teachers allow students to express themselves on issues specific to school knowledge. In this sense, it is still not the students' existential questions that prevail, since the most valued results of the dialogues are already defined in advance. Such results will be related to the domain of school contents. Would it be possible to approach formal education in other ways? Would it be possible to prioritize questions raised by students? These are present challenges for educators who propose to approach teaching from a socially centered perspective. The workshop described in this paper constitutes an example of dialogicity exercised from an existential questioning formulated by the participating teachers. Such questioning was related to the creation of a numbering system that would suit their mother tongue. In that context, it can be inferred that there has been progress in the sense of understanding school practice as a possibility of broadening perceptions of the world through serious consideration of the needs formulated by the learners.

Keywords: dialogicity. teachers' in-service training. teaching praxis. teaching practices with indigenous teachers.

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## RESUMO

Neste texto exploramos o conceito de dialogicidade, tomando uma oficina oferecida a professores indígenas em serviço como referência. Tal conceito vem sendo explorado há décadas na literatura acadêmica. Nos últimos anos, ganhou maior importância, na medida em que currículos oficiais em vários países passaram a enfatizar a importância de se desenvolver a educação mais centrada nas necessidades dos aprendizes. Embora as diretrizes gerais desses currículos estejam definidas, o exercício da dialogicidade em salas de aula passa pelo desafio de se equacionar as exigências formais dos diversos campos de saber com os interesses próprios dos estudantes. Assim, na maioria dos casos, os pesquisadores examinam os diálogos em sala de aula verificando em que medida os professores permitem aos alunos que se expressem sobre assuntos próprios do conhecimento escolar. Nesse sentido, ainda não são as questões existenciais dos alunos que prevalecem, uma vez que os resultados mais valorizados dos diálogos já estão definidos previamente. Tais resultados estarão relacionados ao domínio dos conteúdos escolares. Seria possível abordar o ensino formal de outras maneiras? Seria possível privilegiar questões colocadas pelos alunos? Esses são desafios presentes para educadores que se propõem a abordar o ensino em uma perspectiva socialmente centrada. A oficina descrita neste texto constitui um exemplo da dialogicidade exercida a partir de um questionamento existencial formulado pelos professores participantes. Tal questionamento estava relacionado com a criação de um sistema de numeração próprio para sua língua materna. Naquele contexto, pode-se inferir que houve um avanço no sentido de compreender a prática escolar como possibilidade de alargamento das percepções de mundo por meio da séria consideração das necessidades formuladas pelos aprendizes.

Palavras-chave: Dialogicidade. formação de professores em serviço. a práxis de professores. práticas educativas com professores indígenas.

## RESUMEN

En este artículo exploramos el concepto de dialogicidad, tomando como referencia un taller ofrecido a docentes indígenas en servicio. Este concepto ha sido explorado durante décadas en la literatura académica. En los últimos años, ha cobrado mayor importancia, ya que los currículos oficiales de varios países han enfatizado la importancia de desarrollar una educación más centrada en las necesidades de los educandos. Si bien se definen los lineamientos generales de estos currículos, el ejercicio del diálogo en las aulas implica el desafío de equilibrar las exigencias formales de los diversos campos del saber con los propios intereses de los estudiantes. Así, en la mayoría de los casos, los investigadores examinan los diálogos en el aula, verificando hasta qué punto los docentes permiten que los alumnos se expresen sobre temas propios del saber escolar. En este sentido, todavía no son las preguntas existenciales de los estudiantes las que prevalecen, pues los resultados más valorados de los diálogos ya están definidos de antemano. Dichos resultados estarán relacionados con el dominio de los contenidos escolares. ¿Sería posible abordar la educación formal de otras maneras? ¿Sería posible priorizar las preguntas planteadas por los estudiantes? Estos son desafíos presentes para los educadores que se proponen abordar la enseñanza desde una perspectiva socialmente centrada. El taller descrito en este artículo constituye un ejemplo de dialogicidad ejercida a partir de un cuestionamiento existencial formulado por los docentes participantes. Tal cuestionamiento estaba relacionado con la creación de un sistema de numeración que se adaptara a su lengua materna. En ese contexto, se puede inferir que se ha avanzado en el sentido de entender la práctica escolar como una posibilidad de ampliar las percepciones del mundo a través de la consideración seria de las necesidades formuladas por los educandos.

## Introduction

Dialogicality is a concept widely used in the literature on school education. The need to understand how dialogues evolve in concrete teaching conditions is aligned with the determination of improving processes and better understanding gaps left by formal education.

Communication in educational activity can be seen as an effort on the part of educators to promote access to school knowledge. In principle, it encourages some cognitive advancement in learners. Thus, dialogues in mathematics or science lessons, for example, can be analyzed in an attempt to understand the effects of the propositions forwarded by the teacher on the students' cognitive development.

School activity can be examined from a broader perspective, as an event situated in a wider social context. In this case, different agents that interfere in the relationship among teacher, students and school knowledge are taken into account.

Dialogues can be taken, therefore, as a source for explaining ways that school knowledge is presented and consequent cognitive effects on learners while they participate in schooling. More radical social perspectives however examine schooling as an activity with remarkable cultural exchanges. Paulo Freire is recognized as one of the most significant exponents of this political approach. For the purposes of this paper, a confrontation with some ideas over dialogicity would contribute to better clarifying the consequences of a practice with the training of in-service indigenous teachers, described below.

We will narrate and comment on a meeting between 65 indigenous teachers with a white teacher, that is, a non-indigenous person, with a conventional academic background. Such a meeting took place in 2017, in Assunção do Içana, a village in the immense rural area of the municipality of São Gabriel da Cachoeira, Amazonas. Assunção do Içana is located on the banks of the Rio Içana, a tributary of the Rio Negro. Those 65 teachers belonged to the Baré, Baniwa and Werekena groups and their mother tongue was Nheengatu, or Língua Geral. In that region, children have contact with the Portuguese language only when they start school.

The Secretary of Education of São Gabriel da Cachoeira organized the event. Men and women each came from a village on the Rio Negro or the Rio Içana. All were staying in Assunção do Içana for a few weeks to improve their professional performance. Initially, they went through a workshop dedicated to the assimilation of the written record of the Nheengatu. For the following workshop, on mathematics, they expressed their main demand to the secretary of education through a question: *How do Índios write numbers?* The author was then invited to offer a workshop that could answer that question.

Although, at first sight, the enunciated question seemed somewhat vague, it represented aspirations of the teachers that had to be addressed immediately. The beginning of the dialogue was marked, the door opened for a meeting between a group representing three cultures of native peoples and a person representing the culture of urban groups in large cities.

The narrative of this experience will be resumed later. Before that, we will make some considerations about the concept of dialogicity, which will allow us to develop some reflections on what was experienced.

We will be especially interested in exploring what was learned in those 10 days. The production of knowledge engendered by that workshop can be much broader when one considers the assimilation of each participant. However, the impossibility of accessing this totality seems evident. Perhaps this limitation is inherent to the dialogical approach that is subscribed here, since we do not limit learning to the simple mastery of scientific content formally presented in curricular guidelines.

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## Dialogicality as a Challenge

The term “dialogicity” has been used for a long time in the literature related to the educational field. Let's see some characteristics attributed to such concept.

Lehesvuori et al. (2017) examine differences between curriculum prescriptions that recommend the adoption of student-centered pedagogical methods and practices of some teachers in Finland and Hong Kong. The authors rely on various scholars to state that the mutual recognition of different voices, evidently including students' voices, would be at the heart of what they understand by dialogicity. Their research examines how dialogues are developed when teachers approach school knowledge in the context of ongoing curricular prescriptions. A similar study, with the monitoring of teachers in South Africa, is found in Lehesvuori, Ramnarain and Viiri (2017). Hähkiöniemi et al. (2019) are also interested in analysing dialogues in the classroom, with the same determination to verify what has been achieved from the need to develop a student-centered teaching. They highlight three dimensions of dialogicity while the teacher proposes the dialogue, the students present their answers and the teacher organizes such answers in order to relate them to the school curriculum. Gvaldin, Oganyan and Zubareva (2021) deal with the theme in distance learning practices in Russia and China. They point to the need for this teaching modality to include face-to-face meetings so that dialogicity could be properly exercised. Garcia-Mila et al., 2021, examine the effects of adopting dialogicity in exploring specific themes in Tarragona, Spain.

These quotes, which could go much further, express the importance and topicality of the concept. In general, one researches what happens in classrooms when students do not present their questions but are invited to express themselves on questions addressed by the teachers in order to meet previously defined curricular proposals.

Soares and Pedroso (2013) take support for Paulo Freire's ideas to designate dialogicity as an inherent element of humanism. Dialogicity would be opposed to educational processes in which learners are not considered as participants in the production of knowledge. It would imply the constant transformation of reality by those involved: educator and learner, it would thus be a category that drives critical thinking.

Oliveira (2017) proposes to examine the concept of dialogicity in Paulo Freire. She emphasizes the participation of the student as a subject of knowledge and dialogue as a central characteristic of a liberating education. It would be liberating because it would be opposing conventional education, which does not depend on the participation of learners and assumes a simple transmission of knowledge under the educator's control.

Such *banking education* as designated by Paulo Freire would have a strong reproductive bias of the prevailing social conditions, marked by the oppression of social groups over others. Freedom, in this context, would be understood as overcoming oppression, that is, building a participatory society, capable of recognizing and dealing with the demands of the various groups that comprise it. The dynamic condition of dialogicity should be highlighted, which implies the unfinished nature of the subjects, that is, their constant involvement in successive educational processes. The affirmation of dialogicity depends on the questioning of reality. This problematization depends on an invitation to learners to expose their interests, at the same time that dialogicity would allow such interests to be analyzed in depth.

Dialogicity can be understood as an educational process that emerges from the participation of its agents. One assumes the determination to promote a sharing of issues and knowledge, so that each participant, educator or student, can broaden their horizons and advance in their understanding of the world. The adoption of such a perspective constitutes a challenge for the educator, since the school content will not have a purpose in itself, but will be offered as a tool to address issues that the group recognize as important to be explored.

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In regular formal education school knowledge seems to be an entity above any questioning coming from the students. In these circumstances, thinking of dialogicity as a challenge means facing the teacher as an agent that opposes that principle. He/she plans ways to approach the students' culture and take seriously their desires and life projects. The school curriculum would be offered from a perspective of responding to perceived concerns and projects. This means an approach of the real life conditions and questions as the first goal of educational processes. The school knowledge is not discarded, but put at the service of the interest in better understanding the world and acting in it.

Let's go back to the narrative of the workshop. We hope that it can be taken as an example of the possibility of challenge dialogicity put in practice.

### **The workshop with first nation's teachers**

The narrative that follows will be developed in the first person in the hope that the reader will get a closer look at the environment where the facts occurred. In addition, a present perspective will be adopted, as if the conditions found have remained after more than a decade. This is due to the lack of up-to-date information on the work of teachers and improvement plans that may be underway in the municipality.

Until 2007, Assunção do Içana was a village with approximately 40 houses. It had a big church and a building that housed Salesian nuns. There was also a soccer field and a sand volleyball court. Rio Içana is relatively calm there and has some cozy sand beaches.

The work with the teachers took place, during eight days, from 18 to 25 of October, including Sunday morning, inside a *Maloca*, which was approximately 500m far from the village. *Maloca* is the name of a typical indigenous building. In the old days, each one sheltered several family groups. It has a rectangular shape about 12 m large, 25 m long and 5.5 m high. There are no windows but two doors: one facing the river, the other in the opposite direction.

The *Maloca* lacks good lighting when are used for studying; therefore, when clouds block the sunlight it becomes even darker, what caused us to work outside twice. During the nights, an electric generator provided energy and the Índios<sup>1</sup> were able to have some luminosity for relaxing talking and playing games, mainly dominos.

The teachers were extremely disciplined; I was amazed by how easy it was to work with all of them, which was quite a big group. They told me that, in a case of any chaotic situation, I just had to say loudly the Nheengatu word *puraki* and immediately everybody would stop whatever they were doing. However, I never needed to use that word. Rather, I wondered what *puraki* meant.

The Nheengatú was not originated in the Amazon region, where there were many languages when the European arrived in the sixteenth century<sup>2</sup>. This language was rather adapted by the Jesuits mainly from Tupi-guarani, a language that was largely spoken by the indigenous who lived close to the Atlantic Ocean, on the east side of the colony. Nowadays, 23 languages are spoken in upper Rio Negro. Nheengatu is the first language for about 4,600 persons; nine hundreds of those are Werekena and the others are Baniwa and Baré.

The history of oppression against first nations in the Amazon and indigenous resistance dates back to the 16th century. In addition to land occupation, it involves the destruction of villages by fire and the

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<sup>1</sup> In Brazil, most indigenous people call themselves índios. The word originally meant Indians; in modern Brazilian Portuguese, the word "indianos" means Indians. There is a tendency to reject the designation índio for the first nations peoples, which was given by European explorers because of historical reasons. However, the designation is used here because in that time the indigenous themselves still did not have chosen another one.

<sup>2</sup> It is estimated that the Portuguese encountered about 700 spoken languages in Brazil. The estimative was mentioned in a New York Times report in 2005: Language Born of Colonialism Thrives Again in Amazon, by Larry Rother, available at:

[www.nytimes.com/2005/08/28/international/americas/28amazon.html?pagewanted=1](http://www.nytimes.com/2005/08/28/international/americas/28amazon.html?pagewanted=1)

In Cruz, 2011, the estimative goes up to 1,175 languages.



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enslavement of people in order to work in the interest of the invading whites. Part of this history is documented in Cabalzar & Ricardo, Eds. (2000) and Cruz (2011).

I arrived in Assunção do Içana with the need of solving the above-mentioned demand, due to its vagueness. Hence, the indigenous teachers were asked to help me by writing what they meant by that question and what else they would like to ask. The day before the beginning of our workshop the two white teachers agreed to ask the indigenous teachers to write about their demands in Mathematics. Then the teachers ratified their interest in developing ways to speak and to write numbers in Nheengatu.

Most of the indigenous teachers work in classes with multi-age students, from little children to adolescents. Villages along the rivers are far from any city and also quite distant from each other. Considering the cost of transportation, it is hard to group some same-aged students and send them daily to a sort of regional school, which would have one class for each age. The children are first literate in Nheengatu, which is often replaced by Portuguese from the fourth-grade onwards.

In each village, the teacher and all the parents discuss the local school curriculum. The intention is to preserve their costumes. Thus, the knowledge for communal activities, such as planting manioc or pineapple, is part of what students have to learn. Besides, the community can combine their wisdom and what they expect to assimilate from the white culture. It seems certain that this combination would not be fair without a deep notion of what can be learned from the white culture and, at least in my perception, in this sense the teachers' knowledge is still precarious.

In our first working day, the teachers told me that they wanted to develop a number system that could express any quantity and help in written calculus. Nheengatu had numbers until ten, based in sets of five. From one to five, the numbers were: yepe, mukûi, musapiri, irûdi, pu. From five to ten, it would be pu yepe, pu mukûi, pu musapiri, pu irûdi, pu pu. From ten to fifteen, it would be pu pu yepe, pu pu mukûi, pu pu musapiri, pu pu irûdi, pu pu pu, so on and so forth. One can imagine the difficulty for talking about long numbers such as ninety seven.

After evaluating the situation I decided it could be interesting if I offered information about some number systems, which were created along human history. Hence, the teachers could know different sets of rules that were used to solve the problem they themselves were dealing with. In addition, they could learn something about the creation of the Indo Arabic system; they also could expand their ideas about foreign cultures.

That proposal required some perception about the time, due to the fact that the number systems available were created a long time ago. Taking this issue into account, I used a cotton cord, which I tied to a *maloca*'s pole. Then I told the teachers that the cotton cord would represent the time in a proportion of 1m for 100 years. Close to the pole, there was a point chosen to represent that current year. The teachers then were invited to attach marks to the cotton cord; each mark would correspond to any event that could be considered meaningful to them. The chosen event and its date should be written in a piece of paper which should be attached to a cotton cord's point accordingly the timeline's proportionality.

From the pole to the *maloca*'s front door, the cotton cord had about 20 m. The teachers agreed with the proposal and started to write the events and tie knots. Some events were related to their personal lives, others were related to the story of their communities; still others were connected to the traditional Brazilian history textbooks.

Before the arrival of the Portuguese people in America, there was almost nothing they remembered, but some years related to Christ's life. After they finished registering their remembering, I invited them to follow me and started to extend the cotton cord 30m further, out of the *maloca*. After reaching that point, we started to talk about ancient civilizations, mainly the Egyptians and Babylonians. Back to the *maloca*, I introduced two charts to the teachers, one with the Egyptian's number system; the other with a Babylonian one. Each chart showed the translation of some numbers between the Indo Arabic system and the one that was represented there. Then the teachers were challenged to find out the translation of

many other numbers which were not in the charts. By doing so, they could learn some of those number systems' rules.

After those two systems, the Chinese number system was introduced with the same dynamical proposal that had been done before. Afterwards we turned to the cotton cord again, this time to locate the length that should represent the Mayan civilization, whose territory was not that far from the place where we were. The Mayan number system is positional and vertically organized, what makes it very challenging.

Finally, we got back to the cotton cord again, this time to locate the centuries in which the Indians and the Arabs developed our number system. We talked about the rules that the indigenous teachers could recognize in this number system and I stressed the reason why the Indo Arabic system replaced all the others. I made clear that, to the best of my knowledge, the only system which allows us to do calculations was the Indo Arabic and it is why it is considered universal nowadays. This way I was arguing that it would be very hard to create a new system with new algorithms.

The next day the teachers decided to divide themselves in seven groups. Each group had the challenge to create a number system that would suit the Nheengatu. The groups spent all morning and part of the afternoon doing the task. Three of them decided to maintain the rules of the Indo Arabic number system and only change the drawings of each algorithm. The others invented new rules as well as new drawings. The class had to choose only one system; hence the teachers decided that they had to learn more about each one in order to vote for the best.

Evidently, the three number systems that shared the rules of the Indo Arabic did not create any embarrassment to be understood. The four others had to be explained bit by bit and the explanations lasted until the morning of our third day. When everybody felt confident for voting, each person chose the number system which he/she considered the best and wrote the name of the system in a piece of paper. Then the votes were counted and the group that won took the task of correcting some details and expanding the system for numbers as long as thousands, which they did the following days. The result is illustrated in the chart 1. It is noticeable that for the hundred and the thousand, some persons suggested they should follow their elders, which called them *sentu* and *mili*, respectively. Actually those words

have Portuguese roots as well as many other words in Nheengatu.

In the afternoon of the fourth day, and during the next day, we worked with pedagogical techniques for approaching the algorithms in elementary schools; the second demand presented by the indigenous teachers. At that moment it was decided that the number system that was created would represent quantities, but the Índios would keep using the Indo Arabic system for doing calculus.

0		Nemaã	10		Mukūi pu	30		Musapiri mukūi pu
1		Yepe	11		Mukūi pu yepe	40		Irūdi mukūi pu
2		Mukūi	12		Mukūi pu mukūi	50		Pu mukūi pu
3		Muisapiri	13		Mukūi pu musapiri	60		Pu yepe mukūi pu Pu mukūi mukūi pu Pu musapiri mukūi pu
4		Irūdi	14		Mukūi pu irūdi	70		Pu mukūi mukūi pu Pu musapiri mukūi pu
5		Pu	15		Mukūi pu pu	80		Pu irūdi mukūi pu
6		Pu yepe	16		Mukūi pu pu yepe	90		
7		Pu mūkui	17		Mukūi pu pu mukūi	100		Yepe sētu
8		Pu musapiri	18		Mukūi pu pu musapiri	150		Yepe sētu pu mukūi
9		Pu irūdi	19		Mukūi pu pu irūdi	540		
			20		Mukūi mukūi pu			

Figure 1: the number system chosen by voting

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## Comments on the workshop

Freire (1987) dedicates the chapter 3 of his famous book for discussing dialogicity. In this chapter, he confronts, from different angles, the banking education that does not promote dialogue with the education that can be considered a liberating act.

He emphasizes the questioning, stating that the banking educators don't have dialogue as a purpose. It has no interest for the fulfillment of a previously defined program. In contrast, the dialogic educator-learner aims at the organized return of elements delivered in an unstructured way during the dialogue (FREIRE, 1987, p.47).

Dialogicity requires openness for students' cultural and social needs. As a result, the teacher does not have the control over how the debate evolves, but he/she is subject to exchange his/her cultural baggage at any time. This is how one can interpret what Freire means when he says: "In this manner, the educator is no more the only one that educates, but the one who, while educates, is educated himself/herself in a dialogue with the learner which, while has been educated, also educates" (FREIRE, 1987, p. 39<sup>3</sup>).

Here is a highlight of the workshop we report. It begins with a question of existential importance, even if, from our point of view, enunciated in a still disorganized way. The need to know how Índios write numbers does not refer to any dilettantism. On the contrary it is deeply inserted in a historical context of resistance.

Those teachers are part of peoples whose original language was extirpated to make way for another language imposed on them. However, when the whites forced children to participate in confessional schools, from the mid-twentieth century, they prohibited them from speaking Nheengatu. So, the students' families took this language as a living symbol of resistance. Currently, its improvement is important, both in the adoption of a written language and in the development of an appropriate numbering system. The indigenous teachers' question was, therefore, loaded with historical significance. The role of the one who was in charge of answering that consisted of providing information so that the indigenous people could work on building what mattered most to them.

They are actually in a process of taking in their hands the development of their own culture, establishing ways to deal with the white one, which represents both: the historical pain inflicted over them and something that could help in their search for survival with dignity in the challenging modern world.

In addition to recognizing the importance of the question addressed by the subjects of the activity, it was also possible to perceive in my conversations with the teachers, albeit superficially, a certain distinction between Índios and whites. White would be a generic designation for the rest of humanity. There would be, for example, a *white mathematics* because it was not created by any indigenous people. The exploration of different numbering systems aimed to broaden the teachers' perception because it made possible to verify that *white mathematics* actually has the contribution of various peoples from different regions of the planet.

What effects did the workshop have on the participants during and after the events of those days? We have no elements to say anything about what each person took with them back to their village. However, we have evidence that the teachers were satisfied with the work, given the celebration they organized after the end of the workshop. It was a party with presentations of poetry, music and traditional dances.

We can talk a little about what we brought home from there. Meeting those peoples gave me knowledge of a history that, unfortunately, is not part of Brazilian school curricula. The *Maloca* where we worked

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<sup>3</sup> Free translation; the original phrase is: Desta maneira, o educador já não é o que apenas educa, mas o que, enquanto educa, é educado, em diálogo com o educando que, ao ser educado, também educa.



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for instance is a marvelous example of geometric shape and perfect symmetry. The builder was still alive and had no contact with white mathematics.

First Nations resistance has been tenacious since the beginning of colonization. Something that called our attention was to figure that the contact of those peoples with the forest includes encounters with spiritual beings, mythical elements that cannot be discussed with some Christian priests and pastors. I noticed that they adhere to white people's religions for existential convictions, but also for convenience. It should be noted that, despite systematic participation in the processes of enslavement of indigenous peoples, evangelical pastors and priests changed sides. In recent decades, they have come to represent possibilities for organizing the Índios and conquering some of their claims, as occurred with the demarcation of indigenous lands in the nineteen nineties.

### Final words

Our workshop started with a question about the possibility of creating a suitable numbering system for Nheengatu. The study of other numbering systems was not offered as dilettantism, but as historical constructions of peoples who faced such question. Mastering the rules of other systems allowed teachers to experience their own responses to the question they themselves formulated. I understand that this process characterizes dialogicity in the sense attributed to it here.

The past four years have been devastating for the Brazilian First Nations. The renewal of political conditions from 2023 allows us to verify that we are once again in a time of hope. However, we are very aware of the precariousness of the support for these peoples. With each nation that disappears very rich histories are destroyed, from which we still have a lot to learn.

Our work convinces us of the need to maintain support programs for in service indigenous teachers. In addition, it indicates the importance of covering ourselves with the understanding of dialogicity as a challenge, as the willingness to listen to the demands of those persons. When they demand, it is necessary to introduce effective ways of accessing the mathematical and scientific culture that, after all, are present in the classes that these teachers teach in their villages. They are the ones that have the power to choose how to cope with the white culture in their classes. Liberation in this context might mean the capability to have good understanding of historical constructions that result in modern sciences. This would lead to improve their choices and the consequent enrichment of their culture.

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