

# **Teaching History and Indigenous Cultures in Basic School Education: Reflections from Field Research**

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## **Abstract**

*This text is the result of reflections on a field research on the teaching of indigenous themes in schools in Capoeiras, in the Agreste of Pernambuco, starting with Law nº 11.645 / 2008 and the indigenous history in the region where the study is inserted. Due to the importance of the study on indigenous peoples, this research aimed to contribute to the dialogues between Anthropology and Education, so that we can think of teaching as a means of social and academic mobilizations for the recognition in the school space of the socio-cultural diversity existing in Pernambuco state.*

**Keywords:** Teaching Indigenous History, History Teaching, Indigenous History and Cultures, Basic School Education, Fundamentals of School Ethnography

## **1. Introduction**

In view of the variety and changes in educational policies in recent years in relation to Brazilian basic education, the teacher is faced with the challenge of making the student experience learning so that he can understand the importance of studying the stories and indigenous cultures. In an attempt to revert the problems of ignorance on this theme, Law no. 11,645/2008, which, amending the 1996 National Education Guidelines and Bases Law, institutes the mandatory teaching of indigenous history and cultures in Brazilian Basic Education, especially in the disciplines of History, Geography, Arts and Literature. Thus, the objective is for students and teachers to overcome the idea of "Indian" closely linked to generic stereotypes produced by common sense and traditional historiography over the centuries, since the colonization of our country.

“Interdisciplinary research, which combine historical and anthropological theories and methods, gradually deconstruct simplistic understandings and misinterpretations about Indians and their relations” says Maria Regina Celestino de Almeida (2010, p. 10-11). Thus, educational research it needs to dialogue

more with these new historical-anthropological studies, allowing the requalification of the initial and continuing training of teachers and the elaboration of new significant pedagogical practices that contribute for the teacher to appropriate and work more and better with the ethnic-racial issues and, in especially with the indigenous theme in basic education. Teaching about indigenous peoples in schools is still deficient, surrounded by preconceived ideas, considering the existing distortions in what is curricularly proposed and what is experienced in the pedagogical practice in the classroom, in dissonance with the new historical and anthropological approaches on Brazilian indigenous people. In the present text, therefore, we seek to contribute to educational discussions on the teaching of indigenous themes in Brazilian basic schooling, pointing out reflections extracted from field research and, at the end, proposing alternatives for continuing teacher education. Evidently, there is an emergence of these discussions, since knowledge about indigenous peoples and rights is in permanent threat in our country, and is also ignored at school, as well as in other social spaces.

This text is the result of reflections on a field research on the teaching of indigenous themes in schools in Capoeiras, in the Agreste of Pernambuco, starting with Law nº 11.645 / 2008 and the indigenous history in the region where the study is inserted. Due to the importance of the study on indigenous peoples, this research aimed to contribute to the dialogues between Anthropology and Education, so that we can think of teaching as a means of social and academic mobilizations for the recognition in the school space of the socio-cultural diversity existing in Pernambuco.

In this sense, this research had as field of study three public schools in the city of Capoeiras / PE. The choice of schools was based on educational indicators such as Ideb , Saepe (Pernambuco's Basic Education Assessment System) and also by the socioeconomic characteristics of the place in which they are inserted. As researchers on the indigenous theme, we seek to change the reality of teaching in school life, so why do it? It is necessary to understand how the teachers of these schools react to the indigenous theme experienced in the teaching-learning process, thus inferring the representations involved in this process. But why do this research in Capoeiras-PE?

The region where the city of Capoeiras is located was part of the colonial trade route during the eighteenth century, having great economic importance at that time. For being part of the Una River basin and all the extension of what was the “ Ararobá Sertão ”. And because we realize that both students and teachers in this region are unaware of this history, especially with regard to the indigenous origins of the various groups that make up the local population.

In the region there are many narratives of memories that enabled us to think about the history of Capoeiras, based on the identities formed in that region. We are faced with narratives of residents, where people are interested in reporting their lives, evoking identities related to family memories, and belonging to the place where they live.

The research aimed to highlight and discuss the narratives and views of teachers of the final years of elementary school in the schools studied, about the histories and cultures of Indigenous peoples in the teaching- learning process. It was also necessary to identify the differences and similarities in the conceptions of the teachers of the researched schools about the plurality and diversity of indigenous peoples in Brazil and the discussions in the teaching of History.

From the daily life and experiences lived in schools during the teaching-learning process, from the

reports of teachers of the disciplines responsible for discussing the indigenous theme in Basic Education, we try to understand what the existing concepts in school education in Capoeiras-PE are about the history and indigenous cultures. What visions and ideas were conveyed in these schools? Moreover, how these conceptions materialized or did not apply the legislation on education for ethnic-racial relations in public education?

We understand that there are several obstacles faced in the process of teaching indigenous themes in school education. In addition to the absence of adequate didactic material, there is also the fact that traditional historiography contributed to devalue the protagonism of the Indigenous in the History of Brazil. Add to all that, the teachers' lack of preparation in relation to knowledge about the stories of Brazilian indigenous peoples. On the inhabitants before the arrival of the colonizers, as well as on the original peoples still present in contemporary times, there is an ignorance and a repetition of old pedagogical practices, making the study of indigenous themes in schools inadequate. Obviously, most teachers are unaware of recent historical and anthropological studies on the indigenous theme, as they did not have the necessary contact with these studies in their initial training or in continuing training, which, in our view, is one of the main obstacles to the teaching of children. Indigenous histories and cultures, making effective what determines Law nº 11.645 / 2008. Collaborating so that the school is an entity at the service of overcoming preconceived models and ideas, contributing to the knowledge of the ethnic and social diversity of our country, as well as valuing and respecting that same diversity, are objectives pursued by us teachers and researchers of this theme, because agreeing with Aracy Lopes da Silva, The main intention is to inform correctly; opening paths for understanding the wisdom, peculiarities and wealth present in indigenous societies; raise awareness of the dramatic situation that these peoples have faced throughout history; indicate the possibility of forms of symmetrical relationship between Indians and “whites”; inform about rights, demands and indigenous social movements in Brazil today, indicating how they are part of a broader movement, close to the Brazilian society of our time (SILVA, 1987, p.132).

## **2. Ethnographic research: field and subjects**

The municipality of Capoeiras is located in the interior of Pernambuco, in the Agreste Region, approximately 224 km away from Recife, the state capital, bordering the municipalities of São Bento do Una, Jucati, Caetés and Pesqueira.



Capoeiras Municipality Location

Source: [www.wikipedia.org.com.br](http://www.wikipedia.org.com.br)

The municipality spans 336.3 km<sup>2</sup> and had 19,593 inhabitants in the last Census. The demographic density is 58.3 inhabitants per km<sup>2</sup> in the territory of the municipality. Capoeiras is known for its cheese production and for having one of the largest cattle fairs in the state. The municipality has 3 (three) quilombola communities recognized Imbé, Cascavel and Fidelão, with great cultural diversity such as Reisado and traditional June groups. The option of schools in the municipality of Capoeiras as an empirical field arose because the location is full of memories that refer to an indigenous past. This information inspired us to understand why these memories were restricted to family conversations and unknown to most people who live in the area. Another reason is the proximity to municipalities with the indigenous peoples living in Pesqueira such as the Xukuru do Ororubá and the Xukuru at Cimbres and in Águas Belas, the Fulni-ô people. And this information is unknown to a large part of the population and to teachers, as verified by the interviews conducted, and thus, little discussed in school spaces.

The research carried out intended to contribute to the discussions in the academic environment on the teaching of indigenous themes in schools. But, above all, to expand these discussions to other spaces, above all, because we understand that it is important to recognize the importance of teaching about indigenous peoples in school spaces, as a way of valuing these cultures, recognizing that the ethnic diversity and culture of our country is one of its most emblematic features.

Even though Capoeiras does not currently have any indigenous ethnic groups in its territory, the proximity of municipalities to indigenous territories is very large. Thus, we realize that the distance is not in the kilometers between one municipality and another, but in the lack of knowledge regarding the historical and cultural diversity of these Indian populations, close to the municipality of Capoeiras, in Pernambuco.

We understand the importance of teaching History and indigenous cultures in school spaces, in all teaching modalities, contributing with respect for ethnic-cultural diversity and socio-cultural differences. We assume that the school plays an extremely important role in the formation of society in mobilizations against prejudice and ethnic-cultural discrimination, as well as in the preparation of children and young people for life in society, based on the values of ethics, responsibility and citizenship.

### **3. See, hear and write: a school ethnography in public schools.**

The research that originated this text sought to observe the daily teaching practices of teachers, in relation to the teaching of history and indigenous cultures, and whether Law No. 11,645 / 2008 was experienced in schools in the academic year of 2019. During our stay in the field we realized that just observing teaching practices would not be enough, requiring a deeper analysis in the official documents used by the schools and a comparison between what was planned and what was experienced.

We are faced with a total lack of knowledge of teachers with regard to Law No. 11,645 / 2008 and the importance of indigenous themes. In all the schools surveyed, the Indian was seen only as the character of the 20th of April, a commemorative date experienced by elementary school teachers in the early years, with activities attributing characteristics that do not include indigenous peoples in our country, reinforcing

stereotypes and prejudices built up to the present in school spaces.

In the final years of elementary school, the Indian appears in the contents covered in the textbook as the one who was acculturated, mestizo, now good, now wild. Even among History teachers, we realize that there is no concern in presenting other didactic subsidies contemplating an indigenous history, where the Indian is the protagonist of History. To value the history, cultures and characteristics among the different indigenous peoples. During our stay in the field, the difficulties and challenges that the indigenous theme faces in school spaces were evidenced, both with regard to the implementation of the Law, as well as the teachers' disinterest in valuing the histories and cultures of indigenous peoples.

We consider that the lack of knowledge of the content of the Law is a serious problem, but also the lack of preparation and training in the academic process and in continuing education, is an obstacle to be overcome, by the bodies responsible for Basic Education, and that the indigenous does not be treated as a folkloric character in History taught in school spaces.

During the period that we were in the field, there was no pedagogical activity related to the indigenous theme in which the teachers evidenced indigenous cultures. Alternatively, on topics such as prejudice, cultural diversity, with indigenous cultures as an example.

Unlike teachers in the early years who used notebooks for daily scripts, in the final years the documentary analysis was centered on class diaries, where teachers register classes and semiannual plans daily. We analyzed the class diaries of some History, Arts and Portuguese Language teachers chosen at random.

When observing the diaries of History teachers, we found that the indigenous appears in the suggested contents, as they are organized in the textbooks, we did not find any suggestion of extra content or activity that contemplated the theme. In the teachers' daily records, we observed that the teaching resources used were basically the textbook and some internet activities.

We identified a total absence of content that contemplated the richness of indigenous stories and cultures. What happened was the reproduction of contents that continue to perpetuate the valorization of a Europeanized history, where the heroes left the "old world" and brought civilization to those people who lived in "barbarism".

In this sense, we realize that there is no concern to seek differentiated activities so that the teaching of indigenous themes is, in fact, an effective teaching process. Valuing the richness and diversity of material and immaterial cultures of these peoples.

We also analyzed the Pernambuco Curriculum published in 2019, as it is the official document followed by the education network, serving as a basis for preparing pedagogical plans. In a superficial analysis of the document produced by the Secretariat of Education of Pernambuco, we observed that it mentions law nº 11.645 / 2008 with regard to the teaching of indigenous histories and cultures to be taught in schools. Although superficially, the indigenous theme appears in some themes and skills proposed by the curriculum.

We consider that the indigenous theme, even contemplated by the curriculum renewed each period, followed the pattern of history that favors the colonizer without evidencing the role that indigenous peoples deserve.

We also seek to identify Law 11.645 / 2008 and suggestions on indigenous thematic teaching, in the

new National Common Curricular Base (BNCC) for Elementary Education, published in December 2017 by the Federal Government to be followed by all Brazilian schools, throughout National territory. This document is still the subject of many discussions among education experts, academics and politicians.

We seek to identify, in the text of the current BNCC, reference to Law 11.645 / 2008 as a proposal for studies and pedagogical and curricular practices on the indigenous theme. However, no reference to the law was found. In the skills proposed by the document, for example, indigenous peoples are mentioned among other contents in a purely chronological sequence, keeping the indigenous as being enslaved, mestizo and acculturated, valuing the history of European "heroes".

Among the pedagogical activities carried out in the schools of Capoeiras-PE analyzed, we did not find any with an indigenous theme produced by the schools, or by the teachers. In the practices observed, the indigenous theme appears superficial in relation to other themes that make up the curriculum in the education network. In other words, in elementary school, final years, the indigenous theme is not experienced, as we understand it should be. The Indian remains forgotten or remains that folkloric character, presented with stereotypes that have no importance in the history of Brazil, eventually remembered on the day of the Indian.

The pedagogical proposals used by the municipality were analyzed, and what we found were outdated guidelines with more than 10 years of formulations, not considering the current context of schools, the diversity of its target audience, nor the debate and recent reflections on school education. the last few years in our country.

#### **4. Proposing an intervention: a possibility of continuing teacher training for work with indigenous themes**

Although Law no. 11,645/2008 enable pedagogical practices for valuing and promoting ethnic-racial diversity, as a way of overcoming prejudices and ignorance about the Indians, we find many deficiencies in the initial training during the degree and the absence of guidelines and programs for teacher training for work with this theme in basic education. Beside these aspects, it is frequent the affirmation among school teachers the limitation to the access to specific didactic subsidies for the study and teaching of indigenous stories and cultures, constituting themselves (in the understanding of these teachers, as we can register during this research) obstacles to the pedagogical work of ethnic-racial issues in Basic Education.

In our research, we observed that the majority of teachers, specifically those who teach History, are not prepared to address the theme of Brazilian ethnic diversity and to deal with indigenous history and cultures, with students in schools. In this sense, below, this proposal for continuing education for teachers aims to contribute to the teaching process on indigenous issues in a perspective more aligned with some recent didactic innovations and paradigmatic changes about the Brazilian indigenous populations allowed by the new historiography indigenous and anthropological studies. We propose that teachers can be adequately trained on the theme and, thus, we guide the following, a sequence of didactic-pedagogical activities aiming to expand the teacher training for the school experience of the indigenous theme in elementary school.



#### 4.1 Didactic Activities Script

**THEME:** History teacher training: Law 11.645 / 2008 and the teaching of Indigenous themes. **TIME PERIOD:** 2 semester meetings **TARGET AUDIENCE:** History Teachers

**GENERAL OBJECTIVE:** To train History teachers in municipal education networks on indigenous histories and cultures, so that the school is a space for overcoming prejudices, and where indigenous people can be recognized as protagonists of History and are no longer seen as folkloric characters .

**SPECIFIC OBJECTIVES:**

- Know the content of Law No. 11,645/2008;
- Recognize the role of indigenous peoples in the history of Brazil.
- Understand the importance of studying the theme for the appreciation and respect for indigenous peoples. Valuing the histories and cultures of each indigenous people living in Brazil.
- ♦ Contribute to new pedagogical practices on indigenous themes in the classroom. 1st MEETING Theme: Law nº 11.645 / 2008 and the history of indigenous protagonists Time: 1st semester (8 hours)

**CONTENTS TO BE WORKED:**

- Law No. 11,645 / 2008
- Indigenous and indigenist
- movements Indigenous history
- Indigenous people in the Northeast Indigenous protagonists

**Necessary resources:** texts, copy of the Law and data show.

**Methodology:** In groups, reading and studying the text of the Law that is available on the internet ([www.senado.gov.br](http://www.senado.gov.br)). It is important that teachers have access to the content of the Law so that they can understand the importance of it and thus understand how the Law can be applied in schools. One should also use the texts made available by researchers who discuss the history not presented in textbooks on indigenous peoples. Discuss how the Law was created, what the current situation is, and why it is so urgent that teachers and students discuss this topic. And so to implement the Law that aims to value and respect indigenous peoples. And through the knowledge of texts that emphasize indigenous protagonists in our history, the objective is to give greater visibility and importance to indigenous peoples.

**DYNAMICS USED:** The trainer will use the Law as a basis and, through reading and studying it, ask what the group understands after reading. It is important to highlight that the Law came after the social mobilizations of indigenous and indigenous peoples. Another important point will be to emphasize that after a decade of publication of the Law, the lack of knowledge in school spaces is still great, making it difficult to implement it. Various academic texts available will be used in these suggested discussions. After reading and studying the suggested texts, the trainer should ask the teachers about the importance of the Law for teaching indigenous themes in the classroom. And he will ask the big group to form small groups where each group, point out excerpts from the texts read with emphasis on the indigenous protagonists in history and that even the moments of reading were unknown by the teachers.

**SUGGESTED TEXTS:**

- Link: [http://www.planalto.gov.br/ccivil\\_03/\\_Ato2007-2010/2008/Lei/L11645.htm](http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Lei/L11645.htm)

- Indigenous peoples and Law no. 11,645: (in) visibilities in the teaching of Brazilian history by Juliana Schineider Medeiros.
- The Brazilian Indian: what you need to know about the indigenous peoples in Brazil today by Gersem Baniwa .
  - An ethnology of "mixed Indians"? Colonial situation, territorialization and cultural flows of João Pacheco de Oliveira.

[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-93131998000100003](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-93131998000100003)

2nd THEME MEETING: Pedagogical practices in teaching indigenous stories and cultures. TIME: 2nd semester (8 hours)

#### CONTENTS TO BE WORKED:

- History teaching
- The indigenous theme in the classroom
- Didactics and pedagogical practices

**METHODOLOGY:** The trainer will initially make a dynamic with the whole group, suggesting that each teacher draw an image representing the Indian. Then you will discuss each image produced. This activity is important to understand the image that each person has about indigenous peoples. From the presentations of the images, stereotyped built on the Indian. Soon after, organize groups, deliver supporting texts and suggest that each group develop a class that has the indigenous theme as its central theme. The suggested texts will serve as a theoretical basis for teachers on the teaching of history. Then each group will present their class to the large group and the trainer will evaluate each presentation, contributing with criticisms that enable teachers to understand the importance of teaching indigenous themes in the classroom. The trainer will conclude with an analysis of the practices used in the pedagogical process.

#### SUGGESTED TEXTS

- A temática Indígena na sala de aula: reflexões para o ensino a partir da Lei 11.645/2008 de Edson Silva e Maria da Penha Silva.
- Povos indígenas: história, culturas e o ensino a partir da lei 11.645 de Edson Silva.
  - O ensino de história indígena de Giovani José da Silva/Luisa Tombini Wittmann.
- Ensino de história e culturas indígenas na Educação Básica: alguns apontamentos para reflexão de Tatiane Lima de Almeida e Ricardo José Lima Bezerra.

#### SITE SUGGESTIONS:

- Nova Cartografia Social [www.novacartografiasocial.com.br](http://www.novacartografiasocial.com.br)
- Índio online [www.indiosonline.net](http://www.indiosonline.net)
- Remdipe [www.indigenascontracovidpe.com](http://www.indigenascontracovidpe.com)
- Instituto Socioambiental [www.socioambiental.org](http://www.socioambiental.org)
- Povos Indígenas no Brasil [www.povosindigenas.org.br](http://www.povosindigenas.org.br)
- Nova Escola [www.novaescola.org.br](http://www.novaescola.org.br)



- Carta Educação [www.cartacapital.com.br/educacao](http://www.cartacapital.com.br/educacao)
- Escola Digital [www.escoladigital.org.br](http://www.escoladigital.org.br)
- Índios no Nordeste [www.indiosnonordeste.com.br](http://www.indiosnonordeste.com.br)

## 5. Final considerations

Especialmente a partir da experiência de pesquisar estes assuntos como algo inovador para nós e também que o contato com o estudo do tema indígena no ensino de História abriu horizontes para pensar, tanto para os pesquisadores, quanto para nossa contribuição social e profissional. Para uma educação mais inclusiva, mais crítica, valorizando a diversidade sociocultural e as relações interétnicas em uma região, como o Nordeste Agreste e Sertão, historicamente marcadas por exclusão e desigualdades.

Reafirmamos que a pesquisa nesta área deve continuar, a fim de intervir na realidade e criar escolas mais críticas e abertas, compreendendo que não há uniformidade étnica e social, pois a beleza da sociedade brasileira reside na existência e no reconhecimento de sua diversidade racial e social heterogênea.

E o estudo e a aplicabilidade deste tema na educação escolar abre portas para a sociedade ser cada vez mais plural, democrática e complexa. A Lei nº 11.645/2008, que já ultrapassou dez anos de vigência, não é apenas um marco legal importante, mas também um instrumento de intervenção social que possibilita a expansão e o reconhecimento da diversidade sociocultural brasileira.

## 6. References

- ALMEIDA, Maria Regina Celestino. **Os índios na História do Brasil**. Rio de Janeiro: FGV, 2010.
- ALMEIDA, T. L. de; BEZERRA, R. J.L. **Ensino de História e Culturas indígenas na Educação Básica: alguns apontamentos para reflexão**. In: LIMA, Marta Margarida Andrade; FREITAS, Vera Lúcia Chalegre de; SILVA, Leila Nascimento da; (orgs). *Aprender Ensinado, Ensinar Aprendendo: diálogos entre formação, saberes e práticas docentes*. Curitiba: Editora CRV, 2018.
- BANIWA, G. dos S. **O índio brasileiro: o que você precisa saber sobre os povos indígenas no Brasil de hoje**. Brasília: MEC/SECAD/ Museu Nacional-UFRJ, 2006.
- CAIMI, F. E.. **A História na Base Nacional Comum Curricular: pluralismo de ideias ou guerra de narrativas?** Revista do Lhiste, Porto Alegre, num.4, vol.3, jan/jun. 2016.
- DANTAS, Beatriz G.; SAMPAIO, José Augusto L.; CARVALHO, Maria do Rosário G. de. **Os povos Indígenas no Nordeste Brasileiro**. In: CUNHA, M. C da (orga.). *História dos Índios no Brasil*. São Paulo: Cia das Letras, Secretaria Municipal de Cultura, FAPESP, 1992. p. 431-456.
- LIMA, Maria Margarida de Andrade. **Identidades, Diferenças e Diversidade: entre discursos e práticas educacionais**. In: ANDRADE, Juliana Alves de; SILVA, Tarcísio Augusto Alves da; (orgs). *O ensino da temática indígena: Subsídios didáticos para o estudo das sociedades indígenas*. Recife, Edições Rascunhos, 2016. p. 99-109.
- MEDEIROS, Juliana Schneider. **Povos indígenas e a Lei nº. 11.645: (in)visibilidades no ensino da história do Brasil**. In: BERGAMASHI, Maria Aparecida; ZEN, Maria Isabel Habckost Dalla; XAVIER, Maria Luísa Merino de Freitas, (orgs) *Povos Indígenas & Educação*. Porto Alegre: editora Mediação, 2012. p. 49-

62.

OLIVEIRA, J. P. de (org.) **A viagem de volta: etnicidade, política e reelaboração cultural no Nordeste indígena**. 2.ed. Rio de Janeiro: Contracapa, 2004.

PIMENTEL, Spensy. **O índio que mora na nossa cabeça: sobre as dificuldades para entender os povos indígenas**. São Paulo, Prumo, 2012.

SILVA, A. L. da (orga.). **A questão indígena na sala de aula: subsídios para professores de 1º e 2º graus**. São Paulo: Brasiliense, 1987.

SILVA, Edson H. **Povos indígenas: história, culturas e o ensino a partir da lei 11.645**. In: Revista Historien UPE/Petrolina, v. 7, p. 39-49, 2012.

SILVA, Edson H; SILVA, Maria da Penha. **A temática Indígena na sala de aula: reflexões para o ensino a partir da Lei 11.645/2008**. Recife, 2ª edição, UFPE, 2016.

SILVA, Maria da Penha. **A Temática Indígena no Currículo escolar à luz da lei 11.645/2008**. Caderno de Pesquisa, São Luís, v. 17, n. 2, maio/ago. 2010, p. 39-47.

WITTMANN, Luisa Tombini (Org.). **Ensino (d)e História Indígena**. Belo Horizonte: Autêntica, 2015.

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