



# Chiquitano Didactics and Cultural Praxis Mediated by Digital Culture

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**Abstract:** This is a qualitative study whose objective is to analyze, from a semantic, semiotic, and cultural pragmatic perspective, the self-representative aspects of the Chiquitano identity in the dissemination of its natural and cultural heritage in digital culture. The participants of the study were five hundred teachers, artisans, and cultural facilitators who participated in dialogic interviews and whose answers were corroborated through specialized documentary review. The general result is an analysis of the Chiquitano identity self-representation mediated by digital culture, from the theory of media and cultural studies. The specific results are (a) semantic-semiotic analysis of didactic-cultural praxis, ecopedagogy, and identity self-representation of teachers and cultural facilitators, (b) exploration of diverse interpretations of a singular identity placed in a plural and global context mediated by information and communication technologies (ICT), represented by a model of reconceptualization of interculturality in a virtual context. It is concluded that communicational technological intermediation makes viable spaces for teachers and cultural promoters to disseminate, transfer their heritage, and reflect on their didactic-cultural praxis, from the identification processes experienced generation after generation, thus favoring the transfer of knowledge and wisdom in a close dialogue between the multimodal and tradition. It is concluded that through the reflexive use of communication technologies in the Chiquitano educational and cultural contexts, the identity and dissemination of the patrimonial richness of the Chiquitano ecoregion of Bolivia is enhanced, generating a close dialogue between the singular identities and the plurality of digital culture.

**Keywords:** *Intercultural Communication, Didactics, Intercultural Education, ICT, Digital Culture, Identity Process*

## Introduction

This study is contextualized in the Chiquitano ecoregion of Bolivia, which is part of the vast global Amazonian ecosystem on the border with Bolivia, Brazil, and Paraguay (Barreda 2007). It should be noted that the Chiquitano ecoregion has encompassed numerous ethnic groups and languages throughout its history. In addition to the original languages that still survive in this territory and its adjacencies, such as variations of Chiquitano, Paunaka, Ayoreo, Guarayu, and Gwarasu ñe'e, the region had even greater ethnolinguistic diversity in the past, thanks to the presence of speakers of Napeca, Qitemoca and Chapacura, Old Zamuco, Saraveca, Paiconeca, and Chané, Otuque, Covareca and Curuminaca, among other languages (Danielsen 2021; Lopez 2019).

As the language is inextricably linked to a culture, this list gives an idea, however brief, of the cultural richness of the Chiquitano ecoregion, which is also found in its religious places. In 1990, United Nations Educational and Cultural Organization (UNESCO) declared most of the Missions of Chiquitos as World Cultural Heritage, and the music is also part of

this heritage (Parejas Moreno 2006). In the last twenty years, new orchestras have emerged in the towns, among which is the one directed by Joaquín Tapeosí, director of the Municipal Orchestra of Roboré “Virgen Milagrosa,” an orchestra founded by Mirian Ruíz, one of the cultural managers and guardians of the Chiquitano cultural heritage, for more than thirty-three years.

It should be made explicit that most of these languages and cultures have not been extensively investigated and that all those that are still spoken are at risk of disappearing; in these cultures of water and mountains, of music and literature, of archaeological richness in the caves of the Tucabaca de Chiquitos valley, there is a richness that could be lost when the axis element in which all their wisdom is communicated disappears, that is, the Chiquitano language. Intercultural communication was mediated by the monopoly of two languages that caused many other languages as well as ICH (Intangible Cultural Heritage) to be in danger of extinction. ICH is represented by literary tradition expressed in myths and legends, gastronomy, music, different codes of communication, dances, and so on. (UNESCO, n.d.). ICH underlies the interior of a language through which communication between humans is established; identity, cultural singularity is transferred, dialogue with culture on a human scale; or the imposition of global culture on linguistics identity singularities, is generated; producing the situation that we question: Interculturality for whom? How does technological mediation favor Chiquitano culture and the dissemination of its cultural heritage? These two questions form the vector of this article.

In the last thirty-five years, there have been transformations in policies, in cultural and human rights in relation to the aforementioned rights (Mansilla Sepúlveda et al. 2022). However, at the didactic and pedagogical levels, there are not enough systematic studies on cultural identity singularities and their dissemination in the digital environments in which the current population participates. Therefore, this article proposes that reflections on the participation of the Chiquitano people in digital environments fostered by the web, the way in which this interaction occurs, and their participation in education and intercultural communication mediated by information and communication technologies (ICT) are analyzed.

From the observation of the trajectory of the teachers, artisans, musicians, and facilitators of Chiquitania and exploratory studies in the field, a pattern of communication between diverse sociolinguistic variants of the Chiquitano ecoregion and languages in contact with Spanish, Portuguese, and English on the Bolivia–Brazil border has been identified. All these elements are intermediated by teachers using ICT with a pedagogical–informative purpose.

The teachers interviewed for this study are dedicated to the preservation, transfer, and dissemination of the intangible and natural heritage of this vast ecoregion. They have been working since 1960 to preserve and transfer their identity, incorporating the different communication technologies that have arrived. At that time, from 1960 to 2020, this medium was radio. With the Fe y Alegría Radio Institute, countless educational programs were carried out, teaching literacy with local legends through the radio (Instituto Radiofónico Fe y Alegría [IRFA], n.d.). A trajectory of Chiquitano cultural praxis emerges through the strategic

utilization of communication technologies, aimed at educational purposes, heritage preservation, and dissemination.

On the other hand, globalization has motivated traditional media such as television, radio, and newspapers to use ICT to create platforms in these networks generated by the communication technologies of the twenty-first century together with educational systems from different countries, to offer diverse and inclusive content, and to explore varied pedagogies and forms of teaching and learning, where the cultural identity factor is present.

In this sense, the objective of this research is to analyze both semantically and semiotically the cultural and natural heritage of the Chiquitano ecoregion of Bolivia, pointing out the representative aspects of the Chiquitano identity in the participation and dissemination of its natural and cultural heritage in multimedia communication that circulates on the internet. The questions posed to achieve this objective were as follows:

1. What are the didactic approaches that Chiquitano teachers establish between oral memory and ICT for intercultural communication?
2. Under what conditions do Chiquitano teachers integrate oral memory as a didactic approach for intercultural communication education, oral tradition, and strengthening of their local identities in relation to culture on a human scale?

## **Methods**

### Methodological Design

Using a systemic and ecological design, Von Bertalanffy (1976) and Bronfenbrenner (1992) articulated, with the model of intercultural didactic praxis and life trajectories (Vitón de Antonio 2012), a qualitative methodology and applied dialogical interview techniques to collect and analyze data. Likewise, a review of the bibliography was conducted around the predominant concepts in the interviews with fifty teachers. Corpus analysis of this bibliography and the predominant cultural praxis in the trajectories of the teachers was carried out through the design of a theoretical framework matrix. The matrix allowed us to validate the analysis of the interview responses and dialogues, following the relational analysis model that we have designed (see Figure 1).

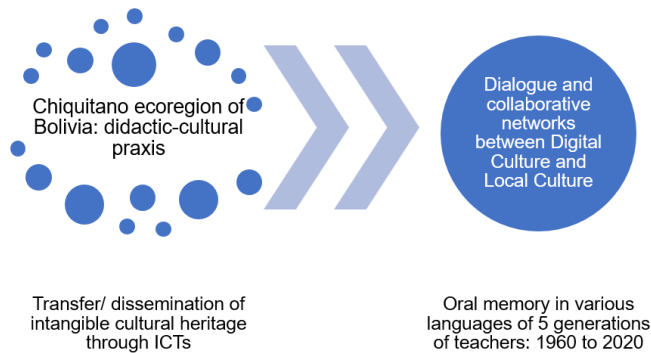


Figure 1: Relational Analysis Model

Source: Adapted from Morin 2007; Bertalanffy 1969; Bronfenbrenner 1987

## Data Collection and Participants

The sample participants and ethical aspects of the study: fifty teachers who are also cultural managers, artisans, and political authorities in their regions, participated in this research and were selected based on their political, educational, and cultural trajectory. The context in which they exercise their profession was also considered to articulate the interviews with their economic, educational, political, and cultural realities. To ensure the replicability and applicability of this study, the research design underwent a validation process during the years 2020 and 2021 by international experts in culture, linguistics, ICT, interculturality, and education.

Data was collected in three phases: in the first phase, the sample was accessed through online interviews and telephone calls; in the second phase, each community was visited and face-to-face interviews were conducted; and in the third phase, the preliminary analyses were socialized, following ethical–cultural protocols (Tuhiwai Smith 2015) through a focus group and from the participatory logic of action-research in the territory (Fals Borda 1996).

## Ethical Protocol

The participants interviewed were selected on the basis of their political, educational, and cultural backgrounds. The ethical and cultural protocols of research in the line of interculturality mediated by ICTs were respected, based on the model of decolonization methodology (Tuhiwai Smith 2015) and didactic–cultural praxis (Vitón de Antonio 1998).

It should be noted that there was an initial stage of exploration of the problems of the Chiquitano culture in relation to the use of ICT for the transfer of their cultural heritage. Then, the categories of analysis to address the problem were confirmed on the basis of a theoretical framework matrix designed and validated by experts. After the analyses were carried out following the dialogical interview protocols, they were socialized with each interviewee, adjustments were made to the analyses in a participatory manner, and, finally, these analyses were validated with the supervisors of the research through theoretical and practical discussion colloquiums at the Latin American level.

## Analysis of the Collected Data

Considering the levels of systemic and ecological complexity of the participants interviewed, the argument of singular situated identities was followed (in this case, the identities of the Chiquitano ecoregion of Bolivia), characterized by specific components such as self-representation, linguistic identity, artistic identity, political identity, life experiences and trajectories, their forms of knowledge in relation to the natural heritage. These components were articulated with semantic and global categories of culture, such as knowledge, the scientific, the technological, and the artistic, which are the heritage of all.

Subsequently, in order to fulfill the objective of semantically and semiotically analyzing the cultural and natural heritage of the Chiquitano ecoregion of Bolivia, pointing out the representative aspects of the Chiquitano identity in the participation and dissemination of its natural and cultural heritage in multimedia communication circulating on the internet, it was decided to corroborate the analyses in a fourth stage of interdisciplinary and intergenerational dialogue between the interviewees, considering their various activities: educators, craftsmen, teaching assistants, cultural facilitators, and environmentalists of the 1960s, 1970s, 1980s, 2000s, 2010s, and 2020s generations of teachers.

At the theoretical level of analysis, the quality of the data analyzed was validated and corroborated from the theoretical perspective of cyberpragmatics (Careaga Butter 2020), intercultural pragmatics, semantics, and semiotics of intangible heritage, following the technique of hermeneutic documentary analysis and dialogic interview (Vitón de Antonio 2013). It should be made explicit that the analysis of the interviews was carried out and information was corroborated with a set of secondary data, recovered from both bibliographical debates and documents of corporate authors working with the indigenous peoples of Bolivia since 1989, including the Association for the Support of the Peasantry and Indigenous Peoples of Bolivia (Asociación de apoyo para los campesinos-indígenas del oriente boliviano [APCOB], n.d.), Museum of History and Regional Archive (Profes Fuera de la Caja 2023), Centre for Legal and Social Studies (Centro de estudios jurídicos e investigación social [CEJIS], n.d.), and Foundation for the Conservation of the Chiquitano Dry Forest (FCBC, n.d.), to name the most consulted and relevant for this research.

The responses of the interviewees were collected and analyzed from the semantic and semiotic structures of the intercultural mediated by communication technologies (Seymour 2018; Thibault 1996). The dialogue focused on the experience of Chiquitano people with ICT-mediated communication in their daily lives and how this technological mediation affects the multimodal participation of Chiquitano cultural identity and its positioning on a global scale. Figure 2 presents a relational systemic model that articulates the stages of data collection and analysis, from the participatory approach, given the characteristics of the cultural–ethical protocol followed in this research (Tuihawai Smith 2015; Von Bertalanffy 1976; Bronfenbrenner 1992).



Figure 2: Relational Systemic Model of Data Collection and Analysis  
 Source: Adapted from Morin 2006; Bertalanffy 1969; Bronfenbrenner 1987

The entire methodological design of this research, including the participant selection stage, instrument validation, data collection and analysis, ethical protocols, and informed consent, applies principles of General Systems Theory (Von Bertalanffy 1976), which facilitates the identification of the main nodes and dynamic interrelationships, endogenous and exogenous, between singular cultures and culture on a human scale.

**Results**

Chiquitano Identity and Self-Representation Mediated by Digital Culture

In the interviews, there was a discursive trend among the teachers, artisans, and cultural facilitators interviewed. A significant presence of local identities from different areas of the Chiquitano ecoregion, as well as of other cultures from other countries of the world, especially Brazil, Paraguay, and Argentina, is observed in the communicative interactions generated on the web (Lopez 2019).

The progressive loss of native languages and of many important cultural aspects related to endangered languages constitute a problem to which UNESCO has tried to call attention, proclaiming the 2022 to 2032 International Decade of Indigenous Languages. In relation to this, the interviewees sought to make visible the richness of their languages and sociocultural expressions. In addition to their languages, they sought to publicize their didactic-cultural praxis from a multimodal pedagogy.

North American media content, in particular, which was initially dominated by white people, now brings more diversity in terms of ethnicity, gender, religion, and so on. Recently, there has also been an increase in the representation of South America in the media and greater participation of the inhabitants of the Chiquitano ecoregion of Bolivia in open online forums.

Although the increase in the representation of South America in North American media, such as Netflix series or movies, Amazon Prime Video, and so on, can be considered positive, it also raises questions about whether this cultural inclusion is done in a respectful way, whether it increases inclusion and the intercultural, whether the representations are accurate, and whether the identities are being fragmented.

In this sense, an overview of the key concepts is presented here. The current effort to convert interculturality into a globally oriented educational issue must be accompanied by a deep reflection on its conceptual and terminological premises (Vitón de Antonio 1998) on the media to which teachers, artisans, cultural facilitators, and students have access. It is also necessary to direct a critical look at the geopolitics of knowledge (Valenzuela-Van Treek and Vaca 2020) from which interculturality is nourished to legitimize itself, especially in the cases of countries like Bolivia, where labor, environmental, and cultural rights have been violated in the last twenty years, as Vadillo and Nava declare in an interview with the journalist Maggie Talavera (2021).

By bringing together various threads of interculturality from the phenomenological and educational notion (Vitón de Antonio 2012), the risks that ICT-mediated intercultural education does not recognize the different forms of knowledge by which people from all over the world lead their lives and give meaning to their existence are explored, emphasizing the epistemic force of ICH as a driving element of many lives in this vast ecoregion of the world, such as the Chiquitano.

In the processes of self-representation and Chiquitano identity, it is observed that it is necessary to stop translating interculturality into interculturality in some regions of the world. It is something more than a change of semantic content between English and Spanish and that it is necessary to rethink the concept of interculturality in each locality and language (Hall 2009), to incorporate the linguistic equivalents or the own concepts that each culture assigns to the act of coexisting, living with each other from writing, reading, orality, and the various signs that surround the structure of life and language in its greatest expression (Derrida 1978).

## Semantic Elements in the Chiquitano Cultural and Educational Praxis

Inquiring into the rhetoric and communicative interactions mediated by networks and the internet is essential in the reflective process on cultural identities mediated by the internet and culture on a global scale, even more so after COVID-19, which implied an increase in the use of technological devices in the world. The Chiquitano people of Bolivia have not been exempt from this reality.

Given the reflective deficiency in teacher training processes, it is problematic to establish dialogues based on critical interculturality. Critical interculturality would allow us to examine the intertwined nature of marginalizing categorizations, such as cultural, social, epistemic, and pedagogical constructions alien to the reality of each country. The absence of a critical and reflective perspective in teacher training processes has generated educational gaps and overlapping and intertwined systems of discrimination.

All of the aforementioned issues have repercussions in the denial and invisibility of the praxis and cultural identities of the subjects participating in education and the development of a country. Since the promulgation of the Education Code in 1955 and the lack of polyvocality in these processes, the open rhetorical density of epistemic injustices between one educational law and another throughout the history of Bolivia has been understood. The Bolivian educational system has insisted on Andean-centric reasoning and imposed it on the entire country, completely ignoring the Amazonian identities of Bolivia, Bolivia being a predominantly Amazonian country, where of the thirty-six native nations with languages recognized by the Plurinational State, thirty-four are from the Amazon and two from the Andes, as noted in the Political Constitution of the Plurinational State of Bolivia (Ministerio de Educación del Estado Plurinacional de Bolivia, 2009, 5):

### Article 5. Political Constitution of the Plurinational State of Bolivia

- I. The official languages of the state are Castilian Spanish and all the languages of the nations and original peasant indigenous peoples, which are Aymara, Araona, Baure, Bésiro chiquitano, Canichana, Cavineno, Cayubaba, Chácobo, Chimán, Ese Ejja, Guaraní, Guarasuawe, guarayu, itonama, leco, machajuyai-kallawaya, machineri, maropa, mojeño-trinitario, mojeño-ignaciano, more, mosetén, movima, pacawara, puquina, quechua, sirionó, tacana, tapiete, toromona, uruchipaya, weenhayek, yaminawa, yuki, yuracaré, and zamuco.

This particular analysis can demystify the processes that frame and reinforce Andean colonial surveillance in legislative processes and educational policies, where local identities are made invisible and weakened. In school textbooks, Andean oral memory and tradition predominate to the detriment of the Amazonian tradition, which has thirty-four linguistic variants and with it thirty-four variants of oral tradition and wealth of intangible heritage, with more emphasis on the Chiquitano ecoregion of Bolivia, which also faces a double identity



pressure: an internal one due to the predominance of Andean culture of the Plurinational State of Bolivia and another external by that of Brazil on the border (Vaca Flores 2019).

The peripheralization of the knowledge of the Chiquitano ecoregion of Bolivia is then denoted, which in the international community may go unnoticed unless it is explicitly pointed out in concrete terms what happens in this vast and rich territory of Amazonian Bolivia. Thus, this study describes an explicit manifestation of what could be a case of asymmetries in epistemic representation and the lack of, at least, symbolic recognition of other voices and ways of knowing, being, and doing in Bolivian territory, as is the case of the Chiquitano and other peoples of the Bolivian plain, made invisible by the state itself.

Stuart Hall in Decherney and Sender sees representation as the link that connects “meaning and language to culture.” It is used to “say something significant about the world or to represent it meaningfully to other people” (Hall 2009, 15). Hall (2009, 15) identifies representation as “an essential process” through which “meaning is exchanged between members of a culture.” From this approach, we can observe how Chiquitano teachers, through their various sociocultural expressions, the living folklore of its oral, musical, and dance traditions, express an identity that contains a powerful artistic component directly articulated with its natural environment. Musical, gestural, and oral language is an innate part of the teachers’ didactics, as stated by the teacher and artisan interviewed (Mirian, female, 60):

In my 30 years of work in education here in Roboré de Chiquitos, the wealth of artisanal heritage, dances, music, the use of resources offered by nature to create clothing, household ornaments, seeds to make jewelry, wood to make furniture, walks to the various places of rivers and forests that we still have, and that is recovering after the fires, all this is part of the didactics and the way in which we educate. Children and young people learn to read and value this environment. We have cave paintings of more than 8,500 years old, all that in collective walks with students and other colleagues, is valued as part of didactics for language, history, biology... Nowadays, social networks and the internet greatly favor the dissemination of this wealth that we have, and the students, if they are guided, take advantage of and show their cultural richness with pride of their origin and identity. (February 2022)

To analyze the fragment of the interview with the Chiquitano teacher, we return to the idea of Hall’s cultural and communication studies (Decherney and Sender 2019) on codes, cultural expression, the system of representation, and the media. It is important to briefly comment on the work of the Swiss linguist Ferdinand de Saussure and that of the French theorist Roland Barthes (1979) since influences from both can be found in the works of Hall, Decherney, and Sender.

For Saussure (Decherney and Sender 2019), language is a system of signs. He divided these signs into two elements: signifier and significance. The signifier refers to the form (the word, the image, the object, the sound), while the significance refers to the idea or concept that is present in the head of an individual. For example, the concept of a tree (significance) is present in your mind as something with leaves and branches. This concept (significance) is

associated with an image (a photo of a tree or a real tree or a cave painting) or perhaps a word (T-R-E-E). These are the signifiers. Although Saussure's work helps to understand the relationship between language and its function, his attention was focused more on the linguistic aspect of the relationship between the signifier and the significance and not so much on the way language functions as part of complex discourses that serve as representation practices in various cultural contexts (Hall 2009).

To understand the cultural didactics of the interviewees, their dialogue between the pedagogical, the language, and the semiotic, we also have the contributions of Thurlow (2017), who appeals to his own interdisciplinary work in this domain that, as he himself makes clear, has always been shaped by issues of multimodality (that is, the interaction between language and other semiotic modes) and also by the ideologies of language, depending on the way in which linguistic anthropologists, in particular, have come to understand how our values, attitudes, and beliefs about different ways of speaking inevitably expose broader social inequalities and power relations, as well as place value on the qualities of a way of life, of sociocultural and natural environment, where from that connection with reality forms of educational development and enhancement of the heritage wealth of a region are established.

Contextualizing Thurlow's contributions in the Chiquitano ecoregion in Bolivia, a close relationship can be observed between the educational anthropology of teachers and cultural facilitators and the pedagogical use of ICH such as music, handicrafts, and oral tradition. This ICH applied as a didactic and pedagogical resource enhances learning and enables a reflective dialogue between different cultures and languages. At the same time, valuing this cultural wealth resolves the educational gap and enhances the skills of teachers and cultural facilitators in this ecoregion. Each heritage activity, such as music, dance, gastronomy, crafts, storytelling rites and legends, moments of spirituality and ontological connection with nature, and so on, must be examined with a semiotic and semantic lens to generate a descriptive taxonomy that makes self-reflection and self-criticism in the pedagogical and didactic processes viable.

Looking from the semiotic approach to this didactic-cultural praxis in dialogue with Saussure theory (Thibault 1996), we see that he took the theory a step further, arguing that culture works in a similar way to language. In the semiotic approach, words, objects, movements, and images can become signifiers that produce a certain type of meaning. Roland Barthes (1900), for example, used the semiotic approach to read various aspects of popular culture. According to Hall, Barthes treated popular culture objects and activities as a "language through which meaning is communicated" (Hall 2009, 36).

In his essay "Rhetoric of the image" and the studies on Barthes (Seymour 2018), three different ways in which a cultural object (image/text/sound/thing) can be read are highlighted: the linguistic message, the denotative message, and the connotative message. The linguistic message, Barthes argues, given the nature of contemporary times, is present in almost all images: "as a title, a caption, on a walk in the park, in a song, in a conversation, in accompanying newspaper articles, film dialogs, comic balloons" (Seymour 2018, 38).

The two main functions of the linguistic message are to provide anchoring and to retransmit. This happens in the didactic process of the Chiquitano teachers, as observed in the declarations of the interviewed teachers. Likewise, Barthes affirms that all “images, which can also be sounds, are polysemic,” which means that the signifiers can be connected to a “floating chain” of meanings (Seymour 2018, 39). In other words, a text can have multiple meanings, and this enriches the process of understanding, cultural dialogue, and the rooting of the Chiquitano identity in Bolivia.

The teachers declare that various techniques are applied to avoid uncertain signs and fix these floating chains of meanings in their communicative interactions with the environment and among the different activities of Chiquitano cultural expression. This richness is observed in cultural didactic praxis, where linguistic meaning is derived from one of these techniques. When the student, as a reader/spectator, wonders or reflects on what the image/text (provided by the teachers in their didactics) is based on, the linguistic meaning immediately answers the following question: how do the student and the teacher interact with their linguistic reality and their cultural heritage? The answer is that they do it in the direction of the meaning chosen after the socialization of the didactic experience; then an identity anchor happens, and the whole experience settles in social networks, photography, writing a poem, singing, comics.

We observe, then, the semiotic force of the didactic–cultural praxis rooted in the natural environment, in the tour through Chiquitano’s archeological heritage, or through its immense natural heritage. In this regard, the interviewed teachers (Supayabe 2021) stated the following:

At the end of the heritage tours, students are more creative, they use ICT with the aim of showing the world their heritage, and we do it in our networks. This is observed in video recordings, songs uploaded to Soundcloud, Facebook, craft workshops. They experiment with sound effects that work together with the visual and highlight meanings that are not found in the photographic image that they have taken or the drawing that they have made.

The discursive and opinion trend of the interviews allows us to see that various functions of language can coexist, and the didactic–cultural praxis of Chiquitano teachers enhances learning with the function of retransmission to fully understand the code of meaning. Denoted message refers to the literal message or meaning that can be gleaned from the image. “The denoted image can appear as an Edenic state of the image; idealistically cleared of its connotations, the image would become radically objective” (Barthes 1900, 42). It becomes an image without code.

## **Discussion**

According to Barthes (1900), denotative reading requires the reader to mentally eliminate as many connotative signs/codes as possible. Given the mechanical and objective nature of photographs—images that reproduce/copy something that was there—the denotative message of photographs is easier to read compared to movies/TV shows. In the case of the

songs recorded and disseminated on web platforms (Tomichá Chuvé 2016), we observe the cultural richness expressed in a context of transition from local culture to digital culture that enhances the denotative reading pointed out by Barthes and incorporates pre-existing semantic elements in Chiquitano songs and rites. The cultural anthropological character of the recordings and photographs disseminated on the web expresses the strength of a process of local identification on a global scale. From Barthes' semiotic perspective, we are facing a transcreation and reconfiguration of codes affected by the digital context, where the zero point is the recorded voice of those who sing in Chiquitano, followed by the filming of other acts of the feast rite: drinking chicha (cold drink of fermented corn) and participating in the chobena dance (Chiquitano folk dance).

In educational and cultural praxis, a frequent didactic is that an image of various elements is presented—musical products, dances, gastronomy, and oral narrations—generating a denotative meaning that positions a variety of multimodal content, polyphonic and polysemic, which generates a multimodal pedagogy, product of cultural reality where the rhetoric of image and voices, sounds, and so on can often be found through the connotative meaning generated by teachers and students participating in the transcreation and transfiguration of their cultural didactic processes. On the other hand, the connotative meaning of the Chiquitano cultural didactic praxis is also observed, which refers to the “symbolic” or “cultural” message of the image, the songs, and the music. There can be multiple connotatives in a didactic activity generated around folklore and natural and cultural diversity, on the Chiquitano heritage.

These rhetoric and performative elements are articulated to enhance intercultural communication and highlight the richness of the language of the diverse cultural expressions of the Chiquitano people, such as concerts by the Roboré de Chiquitos orchestra, Holy Week rituals in San José, or moments of oral narration in some homes in San Antonio de Lomerío, El Portón, El Carmen. In all these places and activities, the performative cultural factor is present. This is what Bartra in *Brain Anthropology* (2021) calls discursive training to enhance the cognitive element of people who keep ICH alive and share it on a global scale through technological devices.

Observing the testimonies of teacher Joaquín Tapeosí and Mirian Ruíz (2022), and teacher Josefa Supayabe (2021), we can see the semantic and semiotic relationship between their teaching methods for teaching music, language, culture, and history of their ecoregion, using aspects of ICTs to make themselves visible and self-observe in their activities. This praxis has allowed local culture to be disseminated on a global scale. We observe that by placing local culture in a scenario of interaction with global culture, such as the internet, recognition and self-knowledge are generated, and communication between variants of cultural codes and customs is enhanced.

According to Doueihí, digital culture (2010, 46) “is made up of modes of communication and information exchange that displace, redefine, and reshape knowledge in new forms and formats, and methods for acquiring and transmitting that knowledge” and by living in the twenty-first century and preserving their living heritage, the Chiquitano people experience these transformations and displacements from the local to the global from digital platforms, where their wealth is valued.

This can be seen in the American Renaissance and Baroque music festivals organized biannually by the Pro Art and Culture Association (Asociación Pro Arte y Cultura [APAC], n.d.), in religious events where the Chiquitano people bring out all their ICH year after year (Tomichá 2020), and in the gastronomy of each town of this vast ecoregion (Tapeosí and Ruíz 2022), where school activities dialogue with the festivities involving the whole family in these spaces are also held to generate economic movement from local tourism according to the teacher and guardian of the mission heritage of San José de Chiquitos Deisy Vargas de Rivero (Vargas 2021), who also chairs the organization COPAMI (Missionary Heritage Council). She expresses:

During the patron saint festivities and the carnival, the schools and the entire population concentrate on organising their dances, songs, music for each day, preparing their costumes to dance taquirari or chobena (chiquitano folk dances), preparing chicha, majao (rice and meat dish), tujuré (milk and corn dish), maracas, rattles, grandfather's masks, the seed necklaces of various plants, the shirts and pants for men and boys, dresses for women and girls...now they film everything with their mobile phones, they upload them on their Facebook, YouTube channels. In each family and school there is a group of young people that collaborates in that communication part with the new technologies, that before was unthinkable, we had to wait for the only channel from the town or city of Santa Cruz de la Sierra, or some radio or newspaper journalist to come. Now each one is in charge of spreading their "charque" as we say here (meaning promoting of their own culture). In each family, there is a whole distribution of tasks. There are families specialized in each activity, be it clothing, gastronomy, dance or music. Prayers are also important because some do it in the Chiquitano language mixed with Spanish. Many tourists come, the houses and lodgings fill up, and they also go to other nearby towns where the richness of nature is a great attraction, they go to look at the cave paintings in Roboré, they go to Santiago de Chiquitos.

Returning to Doueihí (2010) for the analysis of what was indicated by the interviewee (Vargas 2021), the teacher and guardian of the Chiquitano heritage in San José de Chiquitos, we observe that:

1. Digital culture is incorporated into everyday life and in the lexicon of the interviewee. They also consider that ICTs are allies that help to disseminate the activities of the people, to attract tourists, and are part of the didactics of schools and families. Digital culture dialogues with Chiquitano heritage.

If we look at it in terms of a process of communication and intercultural education *in situ*, what the interviewee declared implies a change of such magnitude that it impacts the most important areas of daily life and cultural habits in different areas of the Chiquitano ecoregion. It is evident that the use of ICTs is established in the way of life of the current

inhabitants of this ecoregion, and it has not broken with the traditional, but rather a coupling of the Chiquitano cultural wealth to the technological world has been generated, and there is a dialogue between digital culture and Chiquitano culture.

This means that the technological has been installed within the cultural tradition of an entire community and therefore implies a great paradigm shift in relation to the ways of being in the world, the way of being represented by themselves in their social networks, without depending on what some official means of communication will title them. In this regard, Doueihí says:

One of the most surprising aspects of digital culture is its almost uninterrupted continuity (we should say that, for most users, it is a reality of every moment): it permeates, and even defines, a new daily life, marked by new principles, and assets that manage our presence, our communications, our way of perceiving and representing both ourselves and others. (Doueihí 2010, 88)

In “Image, Music, Text,” Barthes (1900) criticizes the importance given to any author of a cultural text and argues that the meaning of a text is derived from the reader and not from the author. We can transfer such reasoning to the case of the dissemination of Chiquitano cultural heritage, where the texts are diverse: dance, music, prayers, stories, poetry, gastronomy, and various artistic stimuli for the public. This public is a reader but at the same time an author because it receives cultural information from different channels and recreates it.

2. The value of tradition and cultural heritage placed on a global scale is transformed into a cultural product and enters the cultural industry in the hands of the same Chiquitano people who are responsible for creating their digital platforms, to preserve the sacredness of their actions and of every art they represent.

The way in which new content is created is evident from the core of Chiquitano culture, its language, and its practices. There is an appropriation and decision on how they want to be represented on the web, that is, the Chiquitano people, their cultural and natural heritage of the ecoregion, with all their works disclosed on the web are transferred and transmitted on these platforms or stages of digital culture, only to the extent that they allow it. Since it is the Chiquitano themselves who generate this content, the transformation and transfer of heritage is democratic and in accordance with what the Chiquitano (whether a teacher, mother, father, artisan, musician, student, etc.) decide what and how they want to show.

Teacher Deisy confirms this when she explains that students, families, and young people choose how to show their dances, their culture. They choose how and when to represent themselves on the various communication platforms that exist thanks to the internet. Following both the discursive and reflective tendencies of the interviewees, we highlight what was expressed by the director of the Virgin Miraculous Children’s Music Orchestra of the municipality of Roboré de Chiquitos (Tapeosí 2021):

Our cultural activities have had a global reach because we are active in sharing our activities, rehearsals in the workshop, and concerts in the church. Our director, teacher

Mirian Ruíz is always attentive to what is happening in other parts of the world and is very well connected. She makes it easier for us to reach a demanding public from other parts of the world. In the few years of this orchestra's existence, we have already played at the international festival of Renaissance and Baroque music, organised by the most important institution in this field, which is APAC. I think, it is possible thanks to technologies today, if we use them with a specific objective, they favor the arrival and communication of what we do, expedite and shorten times.

Both interviewees, from two different generations, namely, teacher Joaquín Tapeosí (2021), of the generation of 2000, and teacher Vargas, of 1980 (Vargas 2021), affirm that the Chiquitano people are generating their own content on the web from the pride they feel for their cultural identity and the very richness of their natural and cultural heritage.

The school, cultural centers, libraries, and the church, which are often spaces for gatherings and musical events, together with all the citizens who make up these institutions, become scriptwriters from the joy they feel when showing their cultural authenticity and the diversity of semiotic contents of ICH (dance, orality, gastronomy, music, etc.). Each code generates by itself a meaning, a philosophy of life, polysemic learning that teachers enhance outside the classroom, participating in these open spaces that are the patron saint festivities and cultural events.

As Doueihi (2010) himself would say, in line with Barthes, “The screenwriter no longer carries within himself passions, moods, feelings, impressions, but rather this immense dictionary from which he extracts a script; life does nothing more than imitate the book, and the book itself only a tissue of signs” (Barthes 1900, 147). The role of the teacher, the cultural facilitator, the artisan, and the musician in the process of coexistence of culture, beyond curricular activities in the case of the Chiquitano ecoregion of Bolivia, has allowed the heritage to be transferred from one generation to another, without much planning, because everything is alive on a day-to-day basis, and what the current generation does is to spread it on the internet platforms, both the Chiquitano language and the prayers learned by the Jesuits combined with their own songs and rhythms.

It is important for Chiquitano teachers to understand the meaning of a cultural text. There are no dogmas or impositions, for them a cultural text is nourished by many cultures and enters into “mutual relations of dialogue, parody, contestation, but there is a place where this multiplicity is concentrated and that place is the party, the celebration, the music, the gastronomy” (Vaca 2022, 18). These patrimonies are in themselves places where the Chiquitano culture is experienced because it is the result of the dedication and enjoyment of an entire ecoregion that loves its cultural and natural heritage.

It should be noted that a projection of this research will be the replicability of the research model designed in a participatory manner and validated by international experts in the fields of interculturality, heritage, and educational technologies. The reconceptualization model of interculturality is replicable for studies with other cultures in which the relationship between cultural uniqueness, human-scale and digital culture is established. The research design and the reconceptualization of interculturality allow comprehensive exploration of the

conditions under which teachers integrate oral memory and their ICH as a didactic approach for teaching intercultural communication, oral tradition, and strengthening their local identities in relation to the human-scale culture that is constantly mediated by ICTs.

Today, we live in a disruptive context, where in addition to being natives of some local culture, we are digital natives, so identities are in constant transition and construction. Considering the frameworks of globalization, this reality can be analyzed, interpreted, and discussed from the projections and practical application proposed by both models. A limitation of the study was the COVID-19 pandemic context, during which some of the interviewees died and many of them were in poor health.

## **Conclusion**

The semiotic and semantic intensity of this heritage and the awareness that various generations of inhabitants of the Chiquitano ecoregion have of it confirm what Barthes said about the unity of a text (text is understood as that multimodal content that generates meanings, reactions, actions, in the reader, public, receiver): “text does not reside in its origins, but in its destination” (Barthes 1900, 148).

Barthes recognizes the influence of existing works, ideas, and rhetoric in the creation of a cultural text, of a cultural heritage. He emphasizes the idea that the significance of a text depends largely on the interpretation of the reader, to complete itself, so as not to undermine the role of knowledge and power in shaping certain readings of the cultural text, which the recipient may do. In the case of the Chiquitano, these recipients are reconfigured and enter into identity dialogue on a global scale (UCSC Concepción 2023), opening a path of intercultural communication. In addition, it is related to the power of the author or authors (in this case, the Chiquitano as generators of cultural content) to reproduce, consciously and unconsciously, cultural and heritage representations.

We observe that communication and education increased its technological mediation during and after COVID-19, implying a crisis in the teaching staff, which gave rise to the systematic incorporation of their cultural practices in the virtual context. The pragmatics of language and the semantics of the diverse cultural codes coexisting in the Chiquitano ecoregion are evident and declared by teachers and cultural facilitators (Lopez 2019; Tapeosí 2021; Vargas 2022; Tapeosí and Ruíz 2022) as a positive factor for the dissemination and strengthening of the identity of the Chiquitano inhabitants.

On the other hand, it is evident in different studies on communication and education (Careaga Butter and Avendaño 2017; Thurlow 2017; Vitón de Antonio 2017) that throughout different periods of history, human beings have used different channels to communicate, interact, and learn. All these forms have been linked to a particular and complex historical context.

The twenty-first century is no exception in the historical course of humanity. We have the challenge of accepting the intermediation of ICTs in the educational process and in intercultural dialogues, reflecting on these communicative practices, instead of wearing ourselves out by denigrating the communicative practices of current generations and of teachers



who seek to innovate. As exemplified by the teachers of this vast ecoregion, who, despite the technological gap and internet accessibility, use social networks and the internet with restraint and curricular purposes to disseminate the cultural and natural heritage of their community.

In conclusion, this study identifies the urgency of considering the contributions of semantics and semiotics existing in the cultural and natural heritage of the Chiquitano ecoregion as well as intercultural pragmatics in ICT-mediated education and its benefits for the transfer and dissemination of cultural heritage. The teaching-learning of coexisting languages (native languages, Spanish and Portuguese) and the languages of their diverse cultural expressions are highlighted, thus generating the innovation of the language from its sociolinguistic variants throughout the Chiquitano ecoregion (Riester 1967) so that teachers from this didactic-cultural praxis contribute to delineating their own didactic actions that favor intercultural and intergenerational communication mediated by ICTs. We also see that the media industry in relation to the cultural and natural heritage of the Bolivian Chiquitano ecoregion plays an informative role, which the Chiquitano use to their advantage, with their organizational capacity and quality of openness to the world to show their identity.

What has been pointed out can also be analyzed from Theodor Adorno and Max Horkheimer (1944) from the Frankfurt School of thought, who lay more emphasis on the intention of the creator than on the reading of the public to determine the meaning of a cultural text. In this case, the creators are the same teachers, facilitators, and artisans, who consider the interest in the digital that their students and the population in general have, as a symptom that they look at and with which they interact, to create their own didactic praxis in accordance with the context where they live, with the patron saint festivities, the ethos of the place where they work as teachers, thus finding a didactic element in the digital culture itself and the Chiquitano cultural praxis, with its wealth of heritage.

In the case of the Chiquitano, given the autonomy of thought and strength of their patrimonial education, there is an opposite effect to that of the manipulation of the masses, as Adorno and other thinkers of the critical School of Frankfurt considered at the time, when they pointed out: “The culture industry mechanically reproduces a culture of sameness or standardised archetypes” (Adorno and Horkheimer 1944, 88) in relation to the risks that the internet would entail. They refer to the media/cultural industry as a manipulative tool used by “those whose economic position is the strongest” and as a characteristic of a “society alienated from itself” (Adorno and Horkheimer 1944, 89), which in the Chiquitano case does not happen by the force of their identity and heritage, but, above all, by the cunning of teachers in generating a multimodal pedagogy, in which they choose how they want their students and inhabitants of the ecoregion to organize and represent themselves in the global sphere, in the culture industry.

The world is portrayed through the “cultural industry filter”; the real world, then, is seen as an extension of the world that is seen within the cinema and other media content (Adorno and Horkheimer 1944, 45). For Adorno and Horkheimer, but for the teachers who, from their didactic-cultural praxis, propose this multimodal pedagogy, the media and social networks become a device to show themselves and disseminate their heritage, given the

situated historical awareness that characterizes this people. The teachers, artisans, and cultural facilitators use characters from local indigenous and religious histories that are permeated with the customs of the Chiquitano in the festivities. The public, seeing these characters, identifies with them, their identity is strengthened.

The conclusions state that the intermediation of ICTs allows an intergenerational dialog, where it is highlighted that the youngest teachers manage to innovate their didactic resources and pedagogical approaches, strengthening their Chiquitano identity to favor the transfer of the richness of the cultural and natural heritage. In this way, they make their political and educational problems visible, provoking a close dialog between ICTs and the pedagogies of Chiquitano teachers. Furthermore, greater attention needs to be paid to systematic research on natural heritage and its close relationship with ICH (oral memory and languages, gastronomy, music, rituals, among others) with a view to safeguarding and transferring it through digital culture.

We note that the main result of this research is a model of reconceptualization of interculturality, which allows a dialogue between ICTs and global cultures, from the perspective of the visibility, transfer, and dissemination of the ICH of Chiquitania, Bolivia. Cultural and didactic praxis strengthens networks of collaboration and trust, enabling the generation of cultural and educational repositories, where teachers and cultural facilitators systematize and share their didactic practices, to position them on a more global scale and simultaneously acquire other skills that enrich their own practices.

By graphically representing this central conclusion, we have this model for rethinking and continuing to analyze the pedagogical and didactic conditions and characteristics of oral memory and heritage from the diverse life trajectories of teachers, whether from the Chiquitania of Bolivia or from some other locality in the world. This will allow each singular culture in its dialogue with the plurality of voices and memories that circulate in the networks and from ICTs to reconceptualize and make their intercultural communication practices more flexible, thus generating a relational framework in which human beings look at each other with respect, the freedom to reconstruct and rethink identities, as they are: identities in constant construction.

Taking as a reference the Ecological Theory of Environmental Systems (Bronfenbrenner 1992), the model visualizes levels of analysis of interculturality, ranging from the most macrosystemic level of reality, which corresponds to global culture, considering an exosystem of relationships between networks mediated by technologies.

In these networks, so that intercultural communication becomes transferable, collective interactions are established in social networks, forming networks of contacts, promoting collaborative networks, strengthening networks of trust to expand them toward expansive networks (Careaga Butter, Valenzuela, and Badilla 2015), where intercultural interactions are expressed in a fluid, horizontal, and permanent way.

This methodological design, proposed as a model for Rethinking Interculturality in the Disruptive Cultural Transition, is based on the Epistemology of Complexity (Morin 2007), a theory of knowledge that overcomes the fragmentation of knowledge, allowing the identification of all the entities and subjectivities that concur in the complex processes of

interculturality mediated by ICT, forming a loop of knowledge. From this methodological design, it will be possible to continue studying and investigating the relations and current challenges of local culture and global culture mediated by communication technologies.

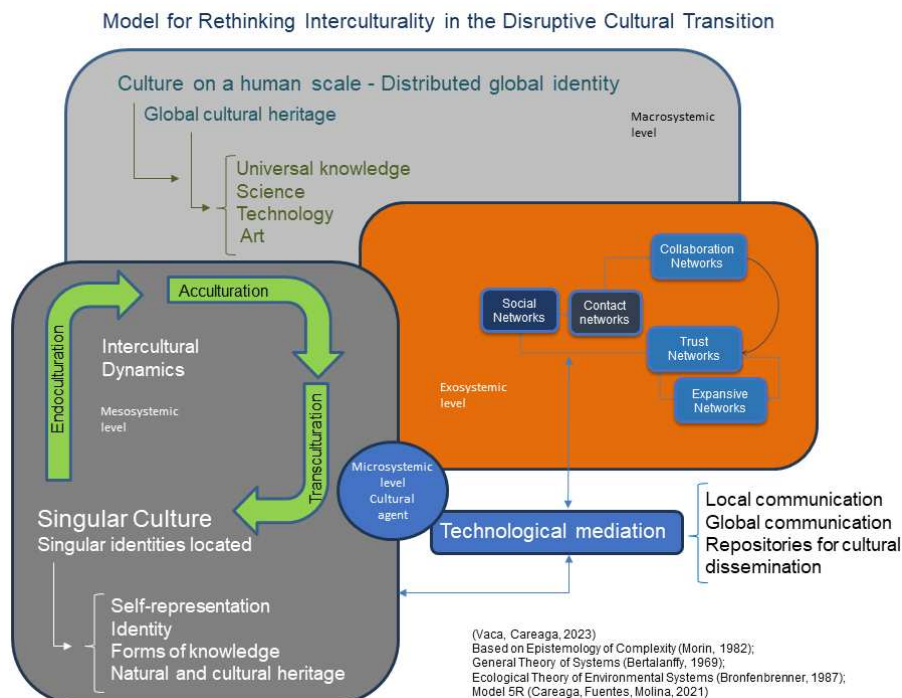


Figure 3: Model for Rethinking Interculturality in the Disruptive Cultural Transition

Humanity is undergoing a disruptive cultural transition, in which intercultural dynamics have deepened, with rapid and abrupt processes of interaction between singular human groupings and culture on a human scale (Kurzweil 2021). This cultural transition is embedded in an intense process of development of disruptive technologies, among which stand out big data, synthetic biology, tissue engineering, robotization, nanotechnology, natural language processing, telemedicine and digital health, immersive worlds and augmented reality, the metaverse, the internet of Things, the internet of People, smart cities, autonomous vehicles, the digital marketplace, 3D and 4D printing, home automation, security of things, among others; artificial intelligence being a transversal and predominant technology that has recently hatched.

Culture changes when human intelligence changes. Currently, we are moving from a modern vision of the world, based on the fragmentation of knowledge and hyper-specialization, toward a complex, systemic, and cybernetic conformation of knowledge. Biological intelligence enhanced by artificial intelligence creates the conditions for a new human singularity, epistemologically founded by the Law of Accelerated Performance (Kurzweil 2021), through which culture is increasingly shaped by the exponential growth of human knowledge.

Thus, the disruptive cultural transition can be situated between modernity, which was an era that inherited and was situated from a two-dimensionality of time and space, and a cybernetic society, which represents a new conformation of human reality that is constituted from a three-dimensional reality of time, space, and virtuality. Social and educational systems do not sufficiently realize that these changes are disruptive and profound. They require greater levels of awareness of a state of crisis that is drastically modifying life, the relations between human beings and their institutions, and the physiognomy of the world. This disruptive change is characterized by significant advances in scientific and technological innovation, which are manifesting themselves in abrupt and profound changes now and in the near future, leading to a drastic modification in human ways of life, involving new forms of behavior and work.

The theoretical trends associated with the classical concept of interculturality were linked to relations between cultures in which unique features are shared, forming common bonds based on communication and mutual respect. It is traditionally associated with dialogue, understanding, integration, and enrichment between two or more cultures. It is linked to processes related to diversity, inclusion, plurality, transculturality, and multiculturalism; and it contrasts with ethnocentrism, Eurocentrism, neocolonialism. UNESCO (2005) associates interculturality with the presence and equitable interaction of diverse cultures, with the possibility of generating shared cultural expressions through dialogue and mutual respect.

Other classical notions characterize the types of interculturality: (1) Relational interculturality: This emphasizes contact between different people, identities, practices, and genders. It does not consider intercultural conflict; (2) Functional interculturality: This promotes dialogue and tolerance without questioning the causes of social and cultural asymmetries; (3) Critical interculturality: Of a decolonial nature, it considers the structural-colonial-ethnic problem, requires the transformation of structures, institutions, and social relations, promoting the construction of radically different conditions of being, thinking, reasoning, knowing, feeling, looking, and living (Viaña, Tapia, and Walsh 2010).

Interculturality requires new paradigms capable of recognizing singularities and distinguishing them from global culture. It is a notion resituated in contexts of rapid and profound changes, characterized by agile processes of transculturation, acculturation, and endoculturation, which demand a reconceptualization of interculturality. It is necessary to rethink ourselves for a disruptive vision of interculturality. From the context of technological disruption, it is necessary to conceptualize interculturality, linking singular situated identities with a distributed global identity, to achieve a complex, systemic, ecological, and cybernetic understanding of a new type of humanity, society, and culture.

In the relationship between the levels of systemic and ecological complexity, it is possible to visualize singular situated identities, characterized by specific components such as self-representation, identity, forms of knowledge and natural and cultural heritage, with global categories of culture, such as universal knowledge, scientific, technological, and artistic, which are the heritage of all and need to be democratized in their access through technological mediation. This technological mediation should include local communication,

global communication, and repositories of cultural dissemination. All relationships are synthesized at the microsystemic level, which is synthesized in the subjects with cultural identity, understood as singular cultural managers linked to culture on a human scale.

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## **Informed Consent**

The authors have obtained informed consent from all participants. We also declare the Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and intercultural education studies (UNESCO 2005) and was approved by the Ethics Committee of the Universidad Católica de la Santísima Concepción (April 14, 2021).

## **Conflict of Interest**

The authors declare that there is no conflict of interest.

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