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Towards a Sustainable and Harmonized Education in the Mapuche Context

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Abstract. The intercultural education in the Mapuche context has been generating many criticisms in the Chilean context. One of the main criticisms is that intercultural education programs have been imposed by the State, but do not respond to the educational needs or requirements of indigenous communities. Moreover, these programs have not been built in collaboration with the indigenous communities themselves. In this sense, a mayor question remains: what is actually meant by "interculturality" by the Mapuche people themselves, as they state that they are already intercultural because they know both their language (*mapuzungun*) and the official language of Chile (Castilian) and have forcibly accepted the institutionality and western rationality in Chile. In this context, it is worth asking how "interculturality" can contribute to a sustainable development of education in the Mapuche context. Since "sustainable development", as implemented in "interculturality programs", has a western epistemic base, it tends to lead to a homogenization of the knowledge and its further development. Therefore, if we want to think of education for sustainable development in a hypothetical and ideal way, then we should establish a broader or expanded epistemology that covers both language and action of indigenous epistemologies such as "balance" and "harmony" with the land, the rivers, the lakes, the forests, the people, the peoples and the cosmos; we observe that parts of the western epistemologies are aligning to that "balance" with the aim to valorise and recognize the importance of life in "community". Thus, from the above, there emerges the need to rescue territorial and sociocultural components, which show epistemic and epistemological categories, from both western and indigenous rationalities, in order to generate an education in the framework of "sustainable development", which can establish a dialogue of educational knowledge between the indigenous and the Chilean western context.

1. Introduction

The demand of native peoples of Latin America to revitalize their culture and language, has resulted in the implementation of intercultural education. Dietz [7] mentions that the struggles and demands of the original people have challenged the politics and policies of Castilianization, identity homogenization and cultural assimilation in the educational field. The resulting negotiation between the Indigenous People of Abya Yala (as an auto-reference of the continent of Latin America in the native language of the Kuna people in Central America) and the nation-states initiated the Intercultural Bilingual Education in the nineties. According to Quintriqueo et al. [16] the "interculturality" in

general originates "simultaneously in different contexts and for several centuries, through the multiple social, commercial, cultural movements and the cooperation between different peoples and nations in the world."

Thus, since its inception, intercultural education is about the following:

"It [intercultural education] is about a paradoxical hybrid product which partly reflects the aspirations of educational autonomy and self-education by the original peoples. In part it illustrates the degrees and margins of maneuver that the nation-state grants to the original peoples in the educational and linguistic field, while they are still denied in the fields of political and territorial self-determination". [7]

In a similar line, Williamson and Flores state:

"Education has been considered as a vehicle for the bleaching and homogenization of the original population, so that the transition from an assimilative education to an education that recognizes the cultural diversity with different intensities and shades, is the result of the historical fight of indigenous and non-indigenous articulations". [19]

As a response to the requirement of educational autonomy of these peoples, it is observed that in the face of the demand of indigenous peoples, "interculturality" is reduced from its beginnings to the processes of educational bilingualism for schools in rural sectors with mostly indigenous population. In this regard, "interculturality" is understood on the basis of an education that is oriented to the usefulness of the indigenous, achieving its functionalistic integration into society as a work subject. In this context, "interculturality" arises from the social as well as institutional environment: initially, in the colonial period, as an evangelizing strategy of the Spanish Crown; and later on it appears associated with claims of indigenous movements in relation to their precarious life conditions. The demand of the indigenous peoples was responded from the institutions of the nation-states, by the "intercultural education". In this way, "interculturality in Latin America arises from the excluded and most delayed social sectors of state modernization projects, where most of the indigenous people are marginalized" [16]. In this sense, "interculturality" has been developing, but subsumed to western education, given that it is situated in the school context as a strategy for educational, social, political, economic and cultural development [18]. Quintriqueo et al. state that "interculturality" operates as an epistemological racism, with the intentions to make sense and contextualizing intercultural education for all citizens, whether indigenous and non-indigenous, persisting in time by being institutionalized and structurally rooted within a postmodern society [16].

2. Bilingual Intercultural Education in Chile

On the basis of the Indigenous Law 19.553 of 1993, the Bilingual Intercultural Education Program (PEIB) was installed in Chile since 1996. This program wants to contribute to the development of the language and culture of native peoples and the formation of intercultural citizens in the educational system. However, in the face of this program there are criticisms, (1) that it focuses only on indigenous students, forgetting that intercultural education should be for the entire Chilean society; (2) that the official focus is on the rural sectors, whereas many of the indigenous families have moved to urban sectors; (3) that the program has an assimilationist character and a clear essentialist, functionalist and technocratic vision of the concept of culture. As Espinoza says, the program has a "tendency to continue favoring Western and colonialist visions of knowledge and, therefore, with a strong emphasis on the national curriculum that supresses the modifications needed to address and incorporate the current cultural diversity in various educational contexts" [8]. In this sense, two great criticisms can be established in the Chilean context: The first refers to the teaching of indigenous language, which has mostly been understood as a second language (L2) [9], [10], [11], [14], [17].

Faced with this, PEIB has not incorporated the diversity of sociolinguistic contexts in which schools are inserted, also ignoring the developing contexts of the children, who are or should be the focus of the program [8]. The foregoing becomes even more difficult with Mineduc delivering the same resources (materials and books) to these diverse contexts, which complicates the delivery of pertinent cultural and linguistic teaching.

The second criticism refers to the absence of pedagogical teaching methodologies. On the one hand, authors focus on language teaching methodologies such as L2 (second language) [6] where traditional educators are not prepared to teach, and the cultural advisors do not have knowledge of innovative methodologies in language teaching [13]. On the other hand, language teaching lacks clear goal indicators for each level and a methodology for its teaching [10].

It is observed that "interculturality" represents a distortion by representing neo-liberal multiculturalism as a project in Latin American countries. In this sense, "heteronomous recognition policies distort or exclude the intentions of recognition proposed by indigenous movements, by generating an impression of double exclusion and 'false recognition' among the subjects belonging to these groups, which may be a source of conflict, palpable in the case of governmental proposals for Intercultural Education" [19].

3. The Ambiguity of Sustainability

We start with the hypothesis that the paradigm of sustainability is ambiguous, which is reflected by the Spanish language, by its linguistic finesse of the existence of two different words that address its two different nuances, *sustentabilidad* and *sostenibilidad*. On the side of *sustentabilidad*, which is the obvious literal translation of *sustainability*, it aims to contribute to the healing of the world by a reversal of the over-exploitation of nature. But on the side of *sostenibilidad*, it may also, despite all the good will, give continuity to inherent mechanisms of destruction. The *sustentabilidad* addresses the livelihood (sustento), the *sostenibilidad* roots on *sostener*: sustain, hold, maintain the present order, with only superficial adjustments.

As a play of words, sustainability (*sustentabilidad*) follows a logic of sustain-ability (*sostenibilidad*), a maintenance of nature by maintaining a logic of exploitation and homogenization – as a sustainability but in disguise, which does not necessarily question and less solve the fundamental problems.

It is understood that sustain-ability (*sostenibilidad*) is not necessarily in accordance with the idea of respecting nature, though as "sustainability" pretends to do so. Therefore, our hypothesis is that to broaden the view, i.e. to identify inherent structures, we review the concept of "sustainability"/sustain-ability in another context, namely in the specific example of mass tourism. In this example, sustain-ability generates or defends a right of tourists to access remote landscapes, distant from their homes, where a supposed "love for nature" contributes to its destruction. In this way, the sustain-ability reaches the corners of the world, with the attempt to solve through technology a problem generated by the technology itself, maintaining the mentality of exploitation, that only alleviates and slightly reduces the effects of overexploitation. Apparently, the ability to disguise oneself, like a sustain-ability that relieves, but does not reverse the over-exploitation, seems to be something typical to dominant branches of Western epistemology.

See Figure 1 of a sign located in the Torres del Paine National Park, which gives an account for the situation of mass tourism. Let us review the international standards for declared sustainable tracking paths, in order to identify the structure of a clear, honest and non-disguised argumentation of a sustain-ability that supposedly mitigates the destruction of nature, opening a pathway for a more massive exploitation. The sign promotes a better user experience, at the cost of what happens with the environment, establishing the following objectives: (1) international standards, (2) low slopes, (3) user separation, (4) rapid evacuation of water, (5) correct signage.

Figure 1. Sustain-able turism sustainability (*sustentabilidad*) aims at the sustain-ability (*sostenibilidad*) of hegemonial mechanisms in disguise, as long as it maintains a western epistemology in the background.

Starting from this list, we ask ourselves: how can this list be translated or re-signified in a context of sustainable education? The following list is an attempt to answer the question, eventually exaggerated, with the purpose of emphasizing the possible ambiguity of sustainability [← here the ambiguity is even visualized by the line break]:

- International standards: International hegemony, where all countries use the same methodology, according to the globalized fashion, independently of local situations; for example, the Singapore method; "competency"-based [i.e. incompetent] teaching and learning, etc.
- Low slopes: Inclusion to education by leveling the requirements for all, including the more talented, at the lowest common level.
- User separation: Control of individual advances by standardized tests that ensure "quality standards".
- Rapid evacuation of water*:* Permanent curricular reforms for the training of functional citizens with little critical judgement and low stress tolerance.
- Correct signage: Suppression and abolition of implicit cultural knowledge and competences, by the requirement that each advance must be explicitly evidenced.

4. A Spotlight on Differences in Epistemologies: New Ken – nüwken
What are the differentiating characteristics of a "typical" Western epistemology as opposed to a typical indigenous epistemology? This contribution, with an overall maximum of 3500 words, can only give a spotlight, but withing the given hegemonical standards, we try to be as precise, pungent and creative as possible.

As an illustration and as a pun we can associate the difference of the sustain-ability of western patterns in comparison to an authentic sustainability towards an indigenous recovery by the difference of the words "New Ken" (the *new* protagonist of a plastic toy, where *new* has pronunciation variants as

nu/niu/nü/nüw) and nüwken (a string of people that take each other by hand), see Table 1. According to the oral social memory of mapuche people the name of the capital of the Argentinian Neuquén province is derived from nüwken as a method to transgress the river hand-by-hand; this image of a hand-by-hand string of people can be derived from the ethymology of the word: "nü" hand, "-w-" mutually, "-ke-" iteration, concatenation.

Table 1. New Ken – nüwken.

New Ken	nüwken
innovation, the new	maintain the traditionality without urgency to "innovate"
individualism (personality of "Ken")	mutual cooperation (-w-)
the promotion of marketed products, outsourcing of the environment as garbage recipient	no need for overproduction or technological tools by self-sufficiency of hand production

5. Proposal of Mutuality

In the second encyclical of Pope Francis a very precise identification of the problem of sustainability is given, without referring explicitly to the concept:

"Technology, which, linked to business interests, is presented as the only way of solving these problems, in fact proves incapable of seeing the mysterious network of relations between things and so sometimes solves one problem only to create others" [4].

The finesse of this sentence consists of the fact that, as it is stated, it does not oppose technology as such, as a possible solution, but only as the only solution: This includes the option that technology very well might be considered as a solution. Since the concept of *problem solving* is a category of Western thought, a proposed solution might have been satisfied with a technique-technology of a discourse against technique-technology. As a self-reference, this same document is edited in L^ATEX, so it implicitly, and by this phrase explicitly, does not oppose technological advances as such, but rather proposes technology as a necessary and integrated part of the solution. So, a pretention, without being pretentious, is to work on a change in the epistemological basis, but not a change for the reason of change. The ambiguity of whether Pope Francis refers to sustainability or sustain-ability is kept open in this text by the word-wrap at the end of the first line of this section. Recursively, our own interpretations are kept ambiguous by keeping open whether the word-wrap was generated by purpose or by accident.

The trap of generically searching for a *solution of problems*, a solution of self-produced problems, consists of staying in previous patterns, especially of moral patterns. This criticism is expressed by Friedrich Nietzsche in his work *Morgenröte*:

"It has been thought the worst about good and evil: it was always a too dangerous thing. [...] (Hear, for example, even our anarchists talk: how morally they talk to persuade!) Lastly, they are calling themselves even 'the good and righteous'.) [...] Why is it that from Plato all philosophical master builders in Europe have built in vain?" [5]

This fundamental critique against Western epistemology applies particularly to promoters of sustainability as soon as they act under a dogma of self-declared "good and righteous". When following the idea of Nietzsche, the vain construction of Western epistemology is perpetuated with a "sustainability", i.e. sustain-ability, that proposes an improvement under the motto of an ethical superiority, with an anarchism eventually disguised as a scientism, or, even more disguised, as certain critiques against it – as a critique that remains within the criticized patterns.

A proposal for leaving and transcending the trap of sustainability – sustain-ability – consists of an articulation of indigenous epistemologies and established western currents, which have the power to generate a mutual resonance.

Perhaps, despite all the criticism against the west, a sustainable, sustain-able, proposal for a sustainability beyond sustain-ability, eventually emerges precisely from ɠulumapu, as a land of the west? Ɠulumapu is one, but not the only, territorial denomination of Chilenian-residing mapuche people for their own land, as land west of the Andes, given that ɠulu-mapu means literally west-land. The following section gives some suggestions originating from ɠulumapu, as the authors are located here.

Here, in the grapheme of mapuzuɠun we are using the one-sound-one-letter paradigm, with a distinct font for the mapuzuɠun pronounciantion: ɠ for ng, c for ch, and t for tr. For instance, mapuzuɠun and ɠulumapu are spelled as mapuzungun and ngulumapu, respectively; the z is spelled like a soft th, at least in the center of ɠulumapu.

6. Piwke

As a reference concept, we return to that of autopoiesis as adapted by the German sociologist Niklas Luhmann for the description of societies. He suggests describing a society not by the actors but by the realized communications. Society is defined by the sum or union of all communications. Any society or sub society operates in the way that each communication is articulated in reference to the others, in analogy to the idea of autopoiesis established for biological phenomena. The inherent concept of reflexivity and self-referentiality of communication and thus society is illustrated by the following quotation:

"A system, in which is communicated under the condition of double-contiguous selectivity, cannot exclude by principle that the communication process refers to itself: to its beginning and its end, to its past and its future, to its topics, to the contributions of the participants or even to the unity (identity) of the communication system. During the communication about communication, its subject is (preliminary) neutralized, and instead, the communication itself becomes subject from one or another point of view. This possibility should be called, as a case of a more general form of self-reference, the reflexivity of communication" [2]

In the double contingency, for each of two parts (respective participants) of the communication process there is a contingency. Contingency is defined in this context by the absence of the need that communication works, but at the same time the possibility that it might work. The option of self-referentiality of the communication process emerges, so that each party can resort to the fact that it is communicating. The self-referentiality here consists of the communication over communication, establishing a reflexivity of communication.

In indigenous cultures there are, as for the knowledge of the authors up to now, no explicit epistemologies in the form of supposedly scientific communications, or recursive communications on communication, but society is equally established through its language and its use. It is possible to communicate without needing a theory of communication.

A concept with which we want to approach the heart of the language mapuzuɠun, or at least one of its hearts, as far as unicity cannot be formally proven, is the same word for the heart, piwke. The meaning of piwke is not, as in an eye of western surgeon, an isolable organ, which can be identified, removed, and dissected at the same time, but in the first instance it is an integral part of the blood circuit. Sure, it might refer to the organ, in a literal or metaphorical sense, but its etymological meaning is beyond, far beyond, an isolating reference.

This is revealed, if we, in a western style, (1) consult, methodologically correct, a series of kimœ, wise people, about their understanding of the concept of heart, or alternatively but also methodologically correct following the western style, if (2) we dissect at the same time the same word piwke in its syllables, interpret each of them separately, and then try to reconnect the parts. See Figure 2 (a) for the word dissection of piwke: "pi-" say, as in piɠen (it is said about me); "-w-" mutuality or self-reference, as in nüwken or tawün (meeting), so that "piw" refers to a dialogue; "-ke" iteration:

kiñe (one), kiñeke (some few); in summary, piwke denominates the heart as core and integral part of the blood circuit, which speaks iteratively with itself, where one pulse triggers the next pulse.
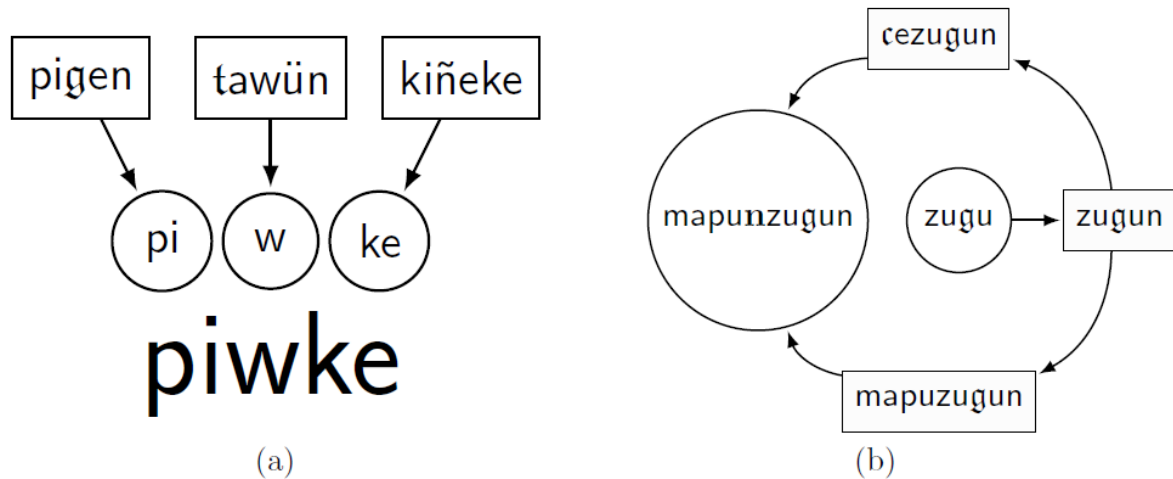

Figure 2. (a) Dissection of the word piwke, (b) zugu → zugun

However, the word "piwke" does not have any specifically blood-related etymology, but might refer to any autopoietic, auto-referential center or system that processes self-communicating, a communication of communication where one communication triggers other communications. Essentially, one can identify (1) the whole theory of biological systems, as far as viewed through the lens of autopoiesis, and also (2) the theory of society according to Luhmann, as far their core characteristic of auto-referential self-communication, as already inherent in the conceptualization of "piwke". This means for this specific example that mapuzugun provides a concept that was recently elaborated withing the western epistemology. It can be conjectured that if Niklas Luhmann had been aware of the word "piwke", he would have mentioned it as one more piece of evidence of his theory, that is, it would not be surprising if this connection is going to appear in one his posthumous works, to come out during the next years or decades.

Table 2. Mapunzugun.

zugu	thing, issue, affair
zugun	tongue, language, the discourse on issues
cezugun	communication between people
mapuzugun	communication inside nature
mapunzgun	communication between people and nature

7. Conclusions

As conclusion, we have identified an instance of western epistemology that is well congruent with an indigenous epistemology. Therefore, a supposed transformation from sustain-ability to authentic sustainability is not necessary from something wrong to something unknown, or something unknown to something wrong, and eventually worse. A complementary instance of the potential complementarity between different epistemologies arises from the way how nature is related to language in terms of the language.

The mapuche epistemology inherently involves a theory of systems, for example when identifying different communication systems, see Figure 2 (b) and Table 2: A *ᴣ*ugu (thing, issue, situation) is articulated as *ᴣ*ugun (tongue, language, discourse about issues). Then, there are two types of communication, the *cezugun* as communication of the people between the people, generating community or society, and the mapu*ᴣ*ugun which refers to the communication within nature, e.g. with a biosphere, that includes the communication of the people as a subsystem, but in no way is limited to this subsystem. As a synthesis of the two different communication systems, mapu*nzug*un refers to the communication of *ce* with mapu, of people with nature. In mapu*nzug*un the *n* points out the connection of language (of the people) with (the language of) nature, with the earth, in the same way as mapu*nce*, contrary to mapu*ce*, mapu*Øce*, indicates the *ce* connected, reconnected, with the earth, with nature.

Acknowledgments

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