



ETHNOEDUCATION AS AN INSTRUMENT FOR THE PROMOTION OF SUSTAINABLE DEVELOPMENT. AN ANALYSIS FROM SCIENTOMETRICS

LA ETNOEDUCACIÓN COMO INSTRUMENTO PARA LA PROMOCIÓN DEL
DESARROLLO SUSTENTABLE. UN ANÁLISIS DESDE LA CIENCIOMETRÍA

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Abstract

Ethno-education allows advancing towards interculturality, recognizing the diversity of cultures in Colombia; however, there is no evidence of a clear formative route as a social project that vindicates the knowledge of the communities and allows strengthening the processes of cultural identity necessary for the survival of the Indigenous Peoples. The objective of this work is to answer whether ethno-education contributes to the promotion of sustainable development from the pedagogical act of the Indigenous Peoples. For this, a literature review was carried out from the most cited publications from the years 2017 to 2021 in the *Scopus*, *Web of Science* and *Dimensions* databases, selected by the English language, Spanish and the keywords indexed in the UNESCO Thesauri dictionary. In the analysis of scientific production, the scientometric tools *RStudio-Cloud*, *Bibliometrix* and the *Tree of Science (ToS)* method were used. The *VOSviewer* and *Gephi* software were also used to identify the research subareas and generate the knowledge network. The work allowed marking the evolution of the annual scientific production with 1,127 scientific documents, the thematic map with emerging topics related to pedagogy, teaching, culture, ancestral knowledge, and the knowledge network forged by the most important authors for this work. As a main conclusion, it was identified that the educational processes should arise from the heart of the ethnic communities, which seek to transmit ancestral practices, promote sustainability, educate the being without adapting it to developmentalist doctrines and educational models.

Keywords: Bibliometry, Indigenous knowledge, Educational sciences, Sustainable development, Cultural diversity.

Resumen

La etnoeducación permite avanzar hacia la interculturalidad, reconociendo las diversidades de culturas con que cuenta el estado colombiano; sin embargo, no se evidencia una ruta formativa clara como proyecto social que reivindique el saber de las comunidades y que permita fortalecer los procesos de identidad cultural necesarios para la pervivencia de los Pueblos Originarios. El objetivo del trabajo es responder si la etnoeducación aporta a la promoción del desarrollo sustentable desde el acto pedagógico de los Pueblos Originarios. Para lograrlo se hizo una revisión literaria de las publicaciones más citadas de los años 2017 a 2021 en las bases de datos *Scopus*, *Web Of Science* y *Dimensions*, seleccionadas por el idioma inglés, español y las palabras clave indexadas en el diccionario Tesauros de la UNESCO. En el análisis de la producción científica se utilizaron las herramientas *Cienciométricas RStudio-Cloud*, *Bibliometrix* y el método de *Tree of Science (ToS)*. Asimismo, se manipuló los softwares *VOSviewer* y *Gephi* para identificar las subáreas de investigación y generar la red de conocimiento. El trabajo permitió marcar la evolución de la producción científica anual con 1.124 documento científicos, el mapa temático con tópicos emergentes relacionados a pedagogía, docencia, cultura, conocimientos ancestrales y la red de conocimiento forjada por los autores más importantes para este trabajo. Como conclusión principal se identificó que los procesos educativos deben surgir desde las comunidades étnicas, los cuales buscan transmitir las prácticas ancestrales, impulsar la sustentabilidad, educar al ser sin adaptarlo a doctrinas y modelos educativos desarrollistas.

Palabras clave: Bibliometría, Conocimientos indígenas, Ciencias de la educación, Desarrollo sostenible, Diversidad cultural.

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1 Introducción

Ethno-education emerged in the mid-1970s as a form of resistance of ancestral culture against education models focused on the development of the country, achieving gradual recognition by their communities, and generating interest to understand their culture from an ontological and epistemological perspective.

It must be taken into account the struggles of the classes that believe themselves to be minority in the country such as the Afro-American and native peoples, which still retain their traditional practices despite their constant struggle since the entry of the Spaniards in Latin America. Ethno-education in Colombia relates to the processes that determine the privileges of the Church in the ancestral territories, as well as the historical resistance of ethnic groups subjected to an official Catholic education that dissociates their cultures and ways of life (Molina, 2012), “whose educational process consisted of the Castilianization and deindianization of indigenous peoples” (Vitonás, 2010, p. 2).

Ethno-education originated in the First Peoples, at the root of Mother Earth, where the ethno-educators not only teach, but are wise, medical doctors, guards and leaders who articulate the different processes in the communities in favor of the sustainability of the territories; it is the starting point that allows the radical reconstruction of the being, power and indigenous knowledge through their daily practices (Barragán-Varela, 2020). As a development of democracy, according to Mendoza-Castro (2010, p. 4) “ethno-education is an instrument that allows populations to inquire about the pedagogical, administrative and methodological strategies that best adapt to their way of living and their culture”, which has been crucial for communities to have the opportunity to carry out ethno-educational programs, processes that recognize their culture and fulfill the objectives of safeguarding ancestral traditions.

Although since the creation of the Constitution of Colombia in 1991 there are improvements in ethnoeducational policies, such as Law 115 (Congreso de Colombia, 1994) that allows the right of official education, which focuses on teaching-learning, it continues to violate ethnic communities, forcing

them to take the curriculum that does not include their imaginaries and cultural legacies.

The Indigenous Peoples also rely mainly on legal tools such as those provided by Decree 2500 of 2010 (Colombia, Presidencia de la República, 2010) that allows the development of the Indigenous Own Educational System (SEIP), a decree that has focused on the provision of educational institutions for primary and secondary basic education. Also the Decree 1953 (Colombia, Presidencia de la República, 2014) which articulates the proper administration of the Ancestral Territories and which aims to focus on early education, early childhood or awakening of the seeds of life; the Decree 1811 (Congreso de Colombia, 2017) with which the financing of the processes of out-of-school education or needs of the community, such as training young people, arts, the indigenous guard, processes that from school cannot be answered. This regulation allows consolidating local, zonal and regional structures to achieve self-emancipation in the own educational system from financial autonomy, in the development and pedagogical experiences and in guiding and directing own education.

There are great advances, but it is not yet possible to consolidate that their own education can be applied in a collective education. It is necessary to know the ethnic and cultural complexity of Colombia and Latin America that requires overcoming unifying and homogenizing educational approaches (Rojas-Curieux, 2019). One possible path is to generate educational processes focused on these ethnic minorities which lays the foundation for creating a collective consciousness that allows inclusion and knowledge of all the different cultures that exist in a nation (Osorio-Mejía and Lozano-Céspedes, 2019). This will allow the affirmation of the constitutional rights of this population; hence it fits pedagogically and legislatively to the multiethnic and multicultural context of the country, in the so-called Intercultural Bilingual Education, which, in Colombia, is the so-called education for cultural diversity or ethno-education, which is defined as the space for a different type of education.

These laws strengthen the language and ways of life of indigenous peoples, allowing their dignity, freedom and equality in rights (Sánchez-Moreno and Escalera-Silva, 2021). However, these policies

are based on universal anthropological principles that propose education as the path to achieve social progress and ethnic inclusion in a country (Ruiz-Cabezas and Medina-Rivilla, 2014). In this sense, ethnic communities, originally from the territory, relate the concept of Sustainable Development (Brundtland, 1987) from traditions and worldviews (Cuervo-González, 2017); i.e., from the irradiation of ancestral knowledge, ancestral and vernacular practices, culture and preservation experiences of biodiversity of their territories for future generations and whole humanity (Chen and Gilmore, 2015; García-Parra et al., 2022).

For integrating it, it is necessary that teachers and ethno-educators have knowledge, competences, values and attitudes to perform this task, are focused on the improvement of society, the economy and the environment from interactive ethno-pedagogies that achieve sustainable projects for life. Tobón et al. (2018) analyze pedagogical practices from conceptual cartography. This perspective allows generating actions towards sustainable social development from the knowledge society, since the formation of communities allows finding solutions to the problems of the context and the territory, thus providing real and better living conditions of people. Acevedo-Osorio et al. (2020) relate the preservation of agro-systems and biodiversity as a strategy of family agriculture. This allows to adapt and respond to the problems and impositions that support their production structures, becoming the definitive component of ethnoeducational processes versus the defined as sustainability, improving the well-being conditions of the communities in their territory (Castro-Castro et al., 2021).

Another case is presented by Peralta et al. (2019), who propose an ethno-education model for the Mokaná community of Malambo, Colombia. This *model* has as its root to preserve ancestral languages, traditions and practices for the new generations. Therefore, it is necessary to promote a more complete and excellent education, where all students can contribute to sustainability from the socio-training (Merlo, 2020). They must also learn by self-motivation, looking for solutions to conflicts and leaving aside traditional education based on subjects, which affects creativity and entrepreneurship (Tobón et al., 2018).

For this reason, students must also appropriate a whole context offered by teachers in which they are provided with the tools to have a proper criterion of equity, tolerance, social justice, preservation, restoration, and conservation of natural resources to transcend in time with better conditions of social development and welfare of communities. In conclusion, the educational proposal of the Colombian State has considered the incorporation of own knowledge, nor the contributions of other members to the teachers in charge of teaching it.

According to the above, the aim of this paper is to conduct a bibliometric exploration of the advances of scientific studies in ethnoeducation, ethno-pedagogy and its contribution to the promotion of sustainable development supported by Scientometric tools, answering if ethnoeducation contributes to the promotion of sustainable development from the act of pedagogy in First Peoples.

2 Research Methodology

The work is carried out from the qualitative paradigm (Strauss and Corbin, 2016) and quantitative (Díez-Gómez et al., 2019); it is descriptive, exploratory, non-experimental, simple and interpretative cross-section, since an interpretation of the scientific documents analyzed is made to generate categories of study from the mixed systematic review method (Oraee et al., 2017). Therefore, a description of the eligibility criteria, research and search sources, as well as the process of study selection, data extraction and synthesis of results found in the indexes of *Scopus*, *Web of Science* and *Dimensions* databases were collected, which allowed selecting the most relevant scientific documents against the related subtopics of ethno-education, ethno-pedagogy and sustainable development.

In the process, bibliometric techniques were used, supported in *Bibliometrix* (Aria and Cuccurullo, 2017), *Tree of Science [ToS]* (Zuluaga et al., 2022; Robledo et al., 2022), analysis of knowledge networks through *Gephi* (Zuluaga-Rojas et al., 2016; Blondel et al., 2008), text mining from *VOSviewer* (Van Eck and Waltman, 2020) *WordCloud* (Fellows, 2018) and review log (Semanate-Quíñonez et al., 2022). Figure 1 presents the methodologically defined moments, the tools used and the products of

this study.

2.1 Moment I: Search Process

As a first step, a bibliometric analysis of the research topic of scientific production found on *Scopus*, *Web of Science* and *Dimensions* from 2017 to 2021 was performed; sources consulted on December 2021 followed the selection criteria: year, most cited and topic. The research areas through which the results were filtered were *Education or Studies in Human Society*

or *Sociology or Curriculum and Pedagogy or Cultural Studies or Specialist Studies in Education or Language, Communication and Culture, Ethnic Studies, Social Sciences Interdisciplinary, Education Educational Research*. The *Dimensions* database was filtered by the Sustainable Development Goals: 4 *Quality Education* or 10 *Reduced Inequalities* or 1 *No Poverty*. Item Type: *Bronze or Hybrid or Green or Gold or All OA*. This showed the advances and research trends of the subject studied, systematized information in the instrument designed by Semanate-Quíñonez et al. (2022).

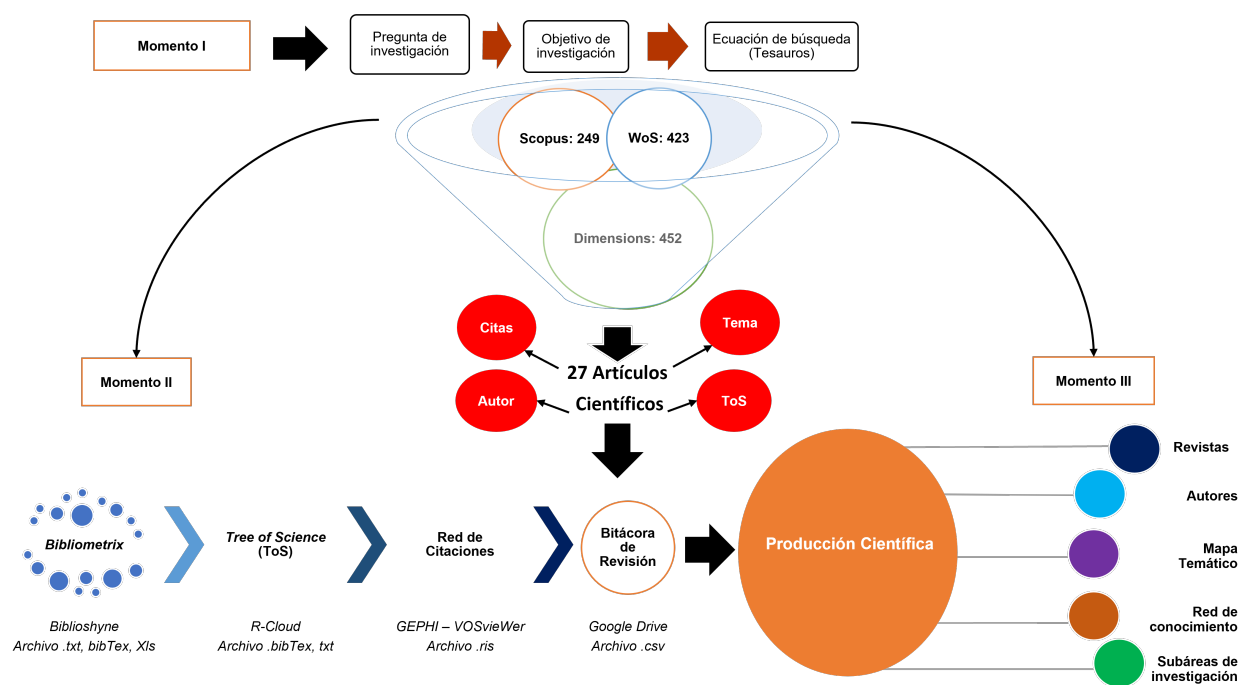


Figure 1. Figure inspired in the prism method (Sánchez-Meca and Botella, 2010) and Burbano-Criollo (2022).

2.2 Moment II: Tree of Science

The results obtained from the previous consultations were analyzed in the *Web Tree of Science (ToS)* tool, categorized as a systematic bibliographic review method with a quantitative approach (Díez-Gómez et al., 2019) and according to Robledo and Duque-Méndez (2017), ToS classifies scientific documents as Root to seminal or classical works; Trunk, structural works that give continuity or foundation to the root; and Leaves, which presents current or emerging works and can be categorized as research trend (Zuluaga-Rojas et al., 2016). Th-

rough this method, it was possible to identify the most notable indexed scientific documents related to the areas of ethno-education, ethno-pedagogy and ethnic population, recording their advances and trends of research in sustainable development.

2.3 Moment III: Analysis and interpretation of research subareas

To identify the research subareas, databases were analyzed in the VOSviewer software (Van Eck and Waltman, 2020) and the results were triangu-

lated with the results of the *Tree of Science* generated in *RStudio-Cloud* (Zuluaga-Rojas et al., 2016) to identify the three most significant topics in the research area. The clusterization algorithm applied in the *Gephi* software allowed to obtain the research knowledge network (Blondel et al., 2008). Finally, the databases obtained in *RStudio-Cloud* were analyzed with the *Bibliometrix* package (Aria and Cuccurullo, 2017) which yielded the annual scientific production, the most cited authors, the sources with the greatest citations and the thematic map of research

trends to select the articles with greater thematic importance.

3 Research results and discussion

The scientific documents that determined the understanding of the contributions of ethno-pedagogy to sustainable development were selected. Table 1 presents the sources of information, the search equation and the total results found and filtered from the UNESCO (2021) keywords and thesaurus.

Table 1. Review Criteria.

Source of information	Search Equation	Keywords/UNESCO Thesauri	Total
Dimensions	“Education AND pedagogy AND indigenous AND ethnicity”	*Indigenous communities, good living, ethnoeducation. *Ethnic group, pedagogy, bilingual education.	452
Scopus	(Education) AND (pedagogy) AND (indigenous)	*Ethnicity, socioeducation, ethno-education, sustainability, interculturality *Pedagogy, national identity.	249
Web of Science	“Education AND pedagogy AND indigenous”	* Socioformation *Pedagogical practices	423

3.1 Scientometric Results

It was found that the scientific indexing of the analyzed period in the research topic has increased. Most publications are indexed in *Dimensions* with 453 documents, followed by *WoS* with 309 and *Scopus* with 149 scientific documents (see Figure 2).

The analysis carried out with *Bibliometrix* allowed finding the countries with the greatest number of researches in the topic as it is presented in Figure 3.

Australia ranks first with more than 60 scientific papers, followed by the United States; however, it is worth noting that among the 20 most influential countries there are three South Americans, Mexico ranked seven, Brazil ranked eleven (11) and Chile ranked sixteen (16).

Bibliometrix by means of *RStudio-Cloud* allowed to identify topics of research trend, synthesized in the thematic map of Figure 4. The results show that the most cited topics and authors regarding research topics are pedagogy (Walsh et al., 2018), indigenous knowledge (Zurita-Álava et al., 2017), integrality (Williamson, 2004, 2005); the topics with more centrality and density are placed in the center of the map. In the same order, it is observed a tendency to use the concept of diversity (López, 1997; Zurita-Álava et al., 2017) and inclusive didactics (Colom Cañellas, 1998).

However, to make an analysis of the selected scientific documents, the knowledge network was developed with the authors who contribute significantly to the analysis of the research topic. To achieve this, *RStudio-Cloud* generated the “targets

and sources" to then obtain the graph in the *Gephi* software (Darko et al., 2019; Derviş, 2019) and edit it in the following Figure 5.

ToS also served as a reference for the identification and analysis of concepts, thus allowing the visualization of pedagogical and intercultural views influenced by ancestral legacies of their worldviews. Table 2 of the annex summarizes the Tree of Science generated by *ToS* in the *RStudio Cloud* web tool, categorized by subject area and total citations of the works. *ToS* threw nine (9) scientific papers root, seminal, among which stand out Tuck and Wayne Yang (2012), who work with decoloni-

zation and indigenous life; Nakata (2007) with education and analysis of native students in the processes of formal education to decolonize indigenous studies and pedagogical approach. Ten (10) stem scientific documents, structural and root connectors. Among the most cited authors are Ladson-Billings (1995) who works on pedagogical research, improving education and collaborative and reflective research; Gruenewald (2003) with critical pedagogy and place-based education, human relations, decolonization and reintegration and Wolfe (2006) with colonialism of settlers and the elimination of natives.

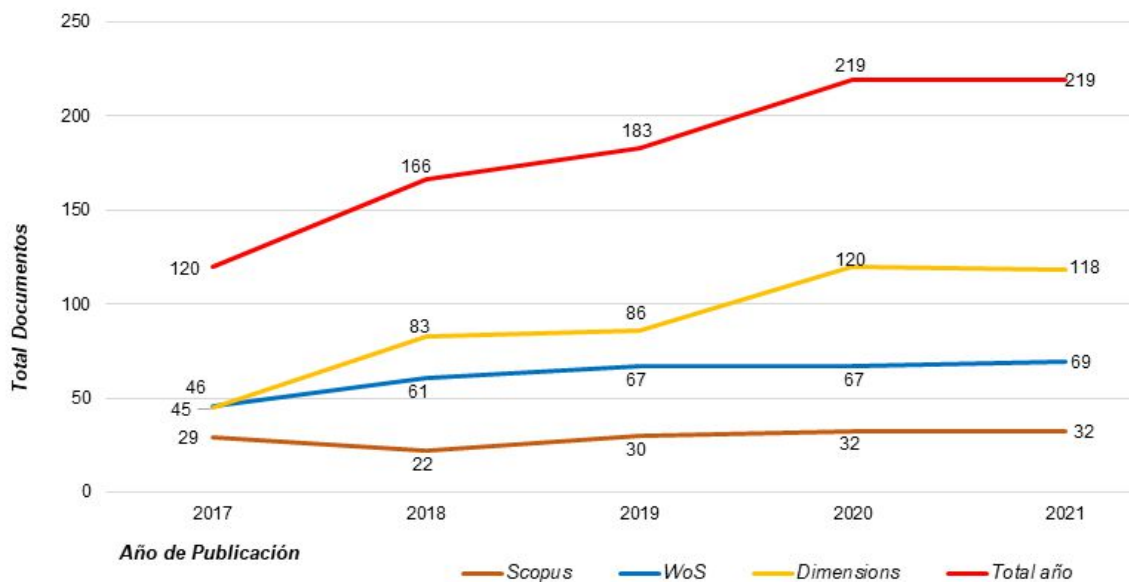


Figure 2. Annual scientific output by total published works.

McCarty (2014) address the critical pedagogy of culture-based indigenous support and education. Sutherland and Swayze (2012) with scientific education in indigenous environments and the importance of place in the indigenous context, as well as Madden (2015), who works on pedagogy for decolonization, indigenous education and anti-racism based on place. Ten (10) scientific documents categorized as Leaves or research trend and / or

emerging is Harrison (2020) and Dreamson (2018, 2016) who work on indigenous pedagogical cultures, intercultural education and cultural diversity. Higgins (2014) with decolonized theory, knowledge and ways of being indigenous, which opens new paradigms of education and linguistic models (Hino, 2018, 2020). Burgess et al. (2020) contribute about the professional learning of teachers since the decolonization of indigenous education.

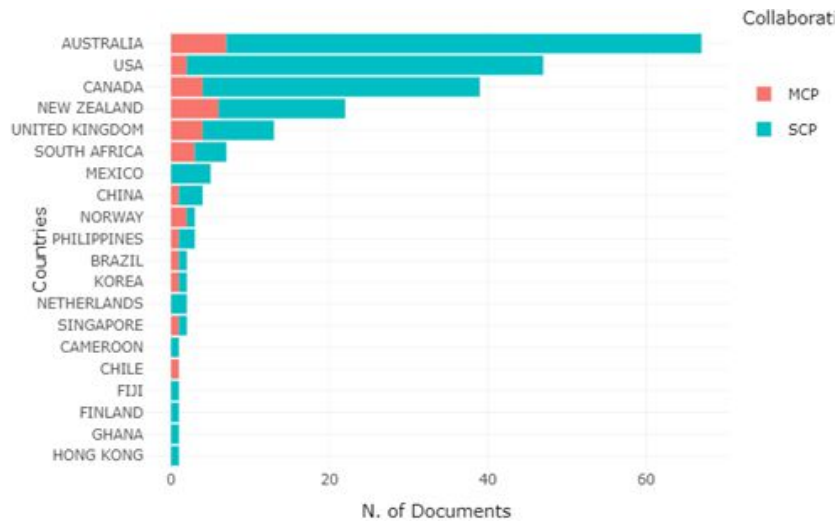


Figure 3. Scientific production by country.

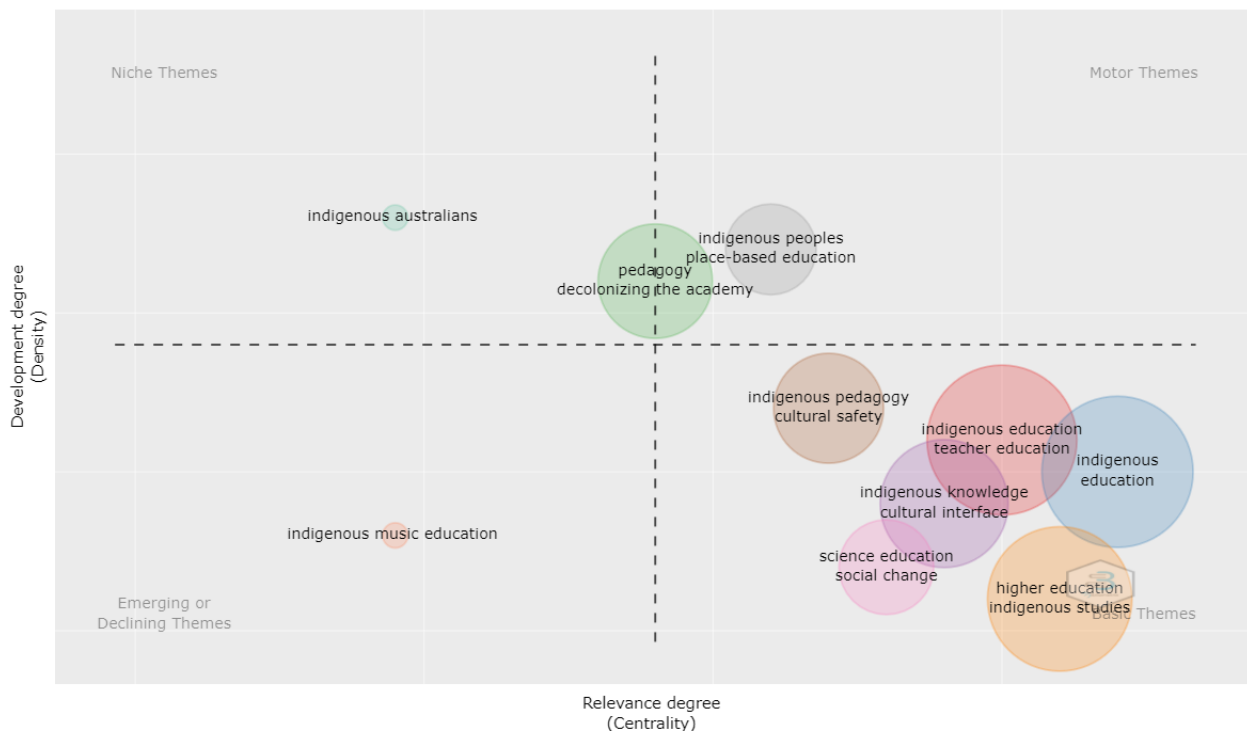


Figure 4. Results released by *biblioshiny* for Bibliometrix on January 2022. Density refers to the correlation of topics; while the Centrality refers to the frequency of citations.

Scully (2020) in the face of the common knowledge of teachers, peoples, lands and histories for indigenous education, and Sosa-Provencio et al.

(2019) analyze entrenched pedagogy for the construction of critical awareness and pedagogies that support, involve and improve the educational out-

comes of aboriginal students Burgess et al. (2019). Finally, in order to identify clusters and research trends, the databases were processed in the VOSviewer software, which allows making a normalization analysis with the fractionation method from the number of occurrences per topic and year of pu-

blication. Figure 6 presents the subareas of greater research concentration defined by education, pedagogy and knowledge in the face of sustainable development, which can direct the dissertation from the selected authors.

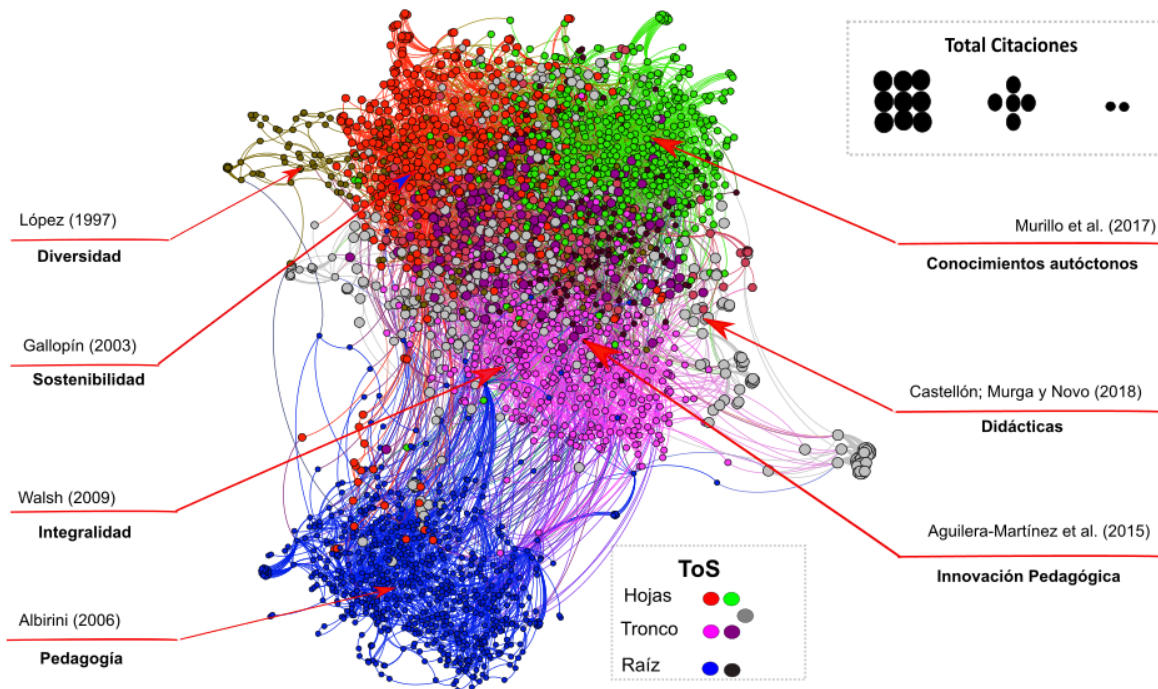


Figure 5. Knowledge Network.

3.2 Results of research sub-areas

In order to highlight the main topics of trend and relevance to the research, reference is made to:

- Pedagogy: The author with the highest citation rate in this topic is Albirini (2006), who worked on teachers' attitudes towards the use of ICTs to revolutionize the educational system.
- Pedagogical Innovation: Aguilera-Martínez et al. (2015) contribute to building learning through the experience and imaginaries that students project in front of the environment they inhabit.
- Indigenous knowledge: Zurita-Álava et al. (2017) work on cultural knowledge in the raising of children.
- Walsh (2009), analyzes critical interculturality and de-colonial pedagogy; bets of the emergence, re-existing and re-live Cuello Ramírez and Garrido Serpa (2020).
- Diversity: the most significant author in this topic is López (1997), who addresses the problems and challenges of rural education in Colombia.
- Didactics: Castellón (2018) works on ethnoeducation and intercultural practices; and Murga-Menoyo and Novo (2017) address pedagogy for sustainable development.
- Sustainable Development (SD): Sustainability and SD are seen from different approaches, do not mean the same and do not have the same approach. Sustainable development is part

of the idea of generating a progressive change, while sustainability is the process of improving the quality of life of people (Gallopín, 2003).

- **Ethno-education:** allows us to analyze the thoughts and practices in the different ethnic communities, the historical process and the cultures of the First Peoples in the territory. It also allows incorporating the community pedagogical discourse, which disagrees with current globalizing and modernist tendencies originated from the structural-colonial-racial,

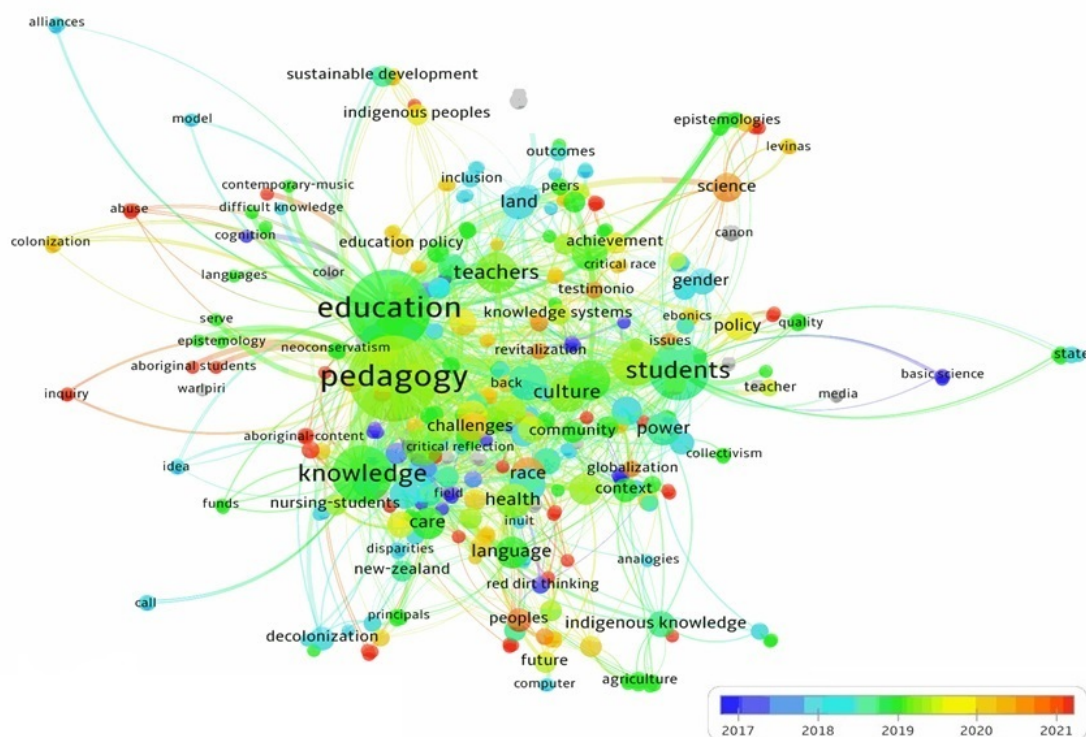


Figure 6. Sub-areas of research. Figure homemade with *VOSviewer* software.

4 Ethno-education and Ethno-pedagogies for Sustainable Development (SD)

Sustainability

The pedagogy for sustainability emphasizes the responsibility of humanity towards Mother Earth, na-

ture and Territories, which is necessary to achieve social equity between individuals (Murga-Menoyo and Novo, 2017). To achieve this, in addition to the growth of a nation, it is essential to have pedagogical bases which are applicable in the day-to-day of each person. Therefore, it is necessary to improve the pedagogical process with emphasis on sustainability, planetary citizenship and glocality. The complexity of the process is to adapt and articula-

te all humanity with nature in a planetary model that generates a glocal development coupled to the approaches of sustainability (Murga-Menoyo and Novo, 2017).

However, from the ethno-educational proposals offered by indigenous cultures, these allow identifying the visions and imaginaries of their communities to create and value the world. Ethno-education assumes some principles of the Good Living (Capitán et al., 2019) and environmental education (Vásquez, 2020), such as the importance of rebuilding ancestral knowledge, which are rejected by Western logics, stressing the need to hybridize them with current knowledge, coinciding with the Community Model of Sustainable Development, which would allow finding innovative strategies to solve the current decline of humanity (Martínez et al., 2016).

Therefore, there is no clear definition of the SD for ethnic communities and First Peoples within a reference framework of important concepts that encompasses the definition, so it is assumed the one by Martínez et al. (2016) of “indigenous community sustainability”, which articulates three important approaches: 1) Sustainable Lifestyles, 2) Community Model of Sustainable Development, and 3) Good Living, which correlate and modulate the dimensions of the SD “ecological, social, cultural, economic and political”, pillars of First Peoples.

This leads to create a conceptual synthesis from the communities and forms to integrate the concept of sustainability to the territories from recovery actions and rehabilitation of ecosystems, sustainable use and use of environmental goods and services (Mora, 2013).

This is how sustainability can be defined from ethno-education as the process that allows the valuation, preservation and transmission of ancestral knowledge from the appropriate management of the natural resources that exist in the territory and conservation for future generations; this occurs from ethno-pedagogical methods that allow the harmonization of the territory, food sovereignty and security, the recovery of traditional productive practices and a sustainable and equitable regional economic exchange [from the perspective of the First Peoples]. This is how ethno-education for sustainability is conceived from the People’s As-

semblies and the participation of its members in projects, in addition to the harmonious integration of its ancestral practices with current ones (Martínez et al., 2016).

As a conclusion, ethno-pedagogy is the process of life itself, since teaching not only focuses on educating oneself in something for work performance but is also essential to understand and learn to value the planet, the family, and even life itself; all this is a learning that could be called the pedagogy of life with constant learning method to achieve sustainability.

Education and Interculturality

The First Peoples are the most important minority that preserves the reality of the ancestors before being a nation colonized by different cultures. Intercultural education makes it possible to integrate learning processes into the cultural and historical environment, hence it is important to consider all the diversity that exists in the territories; we cannot speak of plural democratic pedagogy just because most are the ones who make the difference.

So, who should the school educate? Castellón (2018) analyze the question raised from antiquity to the present day, in search of a logical and concrete answer that can determine this enigma focused on the central axis of politics.

The answer to the question is that modernity has injected the school with a way of learning to modern society, where it is sought that citizens are educated in a system of thought and behavior where the purpose and interest is recognized by the majority in a democratic way; however, by giving continuity to this model, minorities will never be taken into account and their rights will always be violated. Therefore, the modern State must propose projects for the formation of citizenship. These must be managed from the societies and managed correctly, where civic education is a priority to improve and include in the State policies and Development Plans the component of own education and ethno-pedagogical of the different cultures existing in the nation and not directed by a dominant political project (Sánchez-Otero et al., 2019).

Ethno-education and curriculum

Regarding the implementation of ethno-education from educational policies, "currents of reflection and innovation have been generated, leading to a substantial modification of educational practice" (Ruiz-Cabezas and Medina-Rivilla, 2014, p. 6). This, according to Moreno and Silva (2021), has managed to condemn the different grounds of discrimination and provide the right of political participation for the construction of educational regulations of the State concerning ethnic populations, thus providing the enjoyment of collective and individual human rights.

Thus, the aim of ethno-education is to achieve the integration and transversality of the curriculum of the Western school versus knowledge (Nakata, 2011). For this reason, it is essential to think about another form of school, one that allows life, the valuation of ancestral knowledge from the recovery of practices, and knowledge, since education offers with other values different from those of the First Peoples, separated from the moments of life of the communities.

Through the study of the academic curriculum and the foundation of its own structures, it has been possible to strengthen the forms of ethno-education. Not the curriculum as it is known or called, since this would mean adapting the foreign, leaving outside fundamental areas of knowledge of ethnic communities framed in ancestral knowledge. Therefore, knowledge must be integrated, thought cannot be fragmented or condensed into a curriculum. There must be integration between the territory and society, the community and nature, the mathematics and the production, the communication and the language, the organization and the politics, without leaving the fundamental, the wisdom and the ancestral worldview.

It is also found that the "flexibility" of the programs for ethnic students proposed by Higher Education Institutions (HEI), are assumed as "low quality" and the associativity of "differentiation is not understood (Mato, 2011). In addition to this, it is necessary to design instruments and procedures particular to the evaluation processes that integrate the holistic view of the ethno-educational, ethno-pedagogical proposals and the contexts in which they are developed, including their teachers, ethno-

educators and researchers.

The above implies a tendency of appropriation of ethno-education and ethno-pedagogy in new intercultural and pedagogical spaces that are adapted simultaneously with traditional practices, which allow to affirm cultural identity, generate intercultural dialogues and achieve the encounter with the other (Castellón, 2018).

5 Conclusions

The review allowed to identify the evolution in the challenges of ethno-education in intercultural contexts, where educational processes must end from the matrix of First Peoples and drive a new "development" with traditional practices gestated from educate to be and not adapt it to traditional educational doctrines, thus achieving a conservation of diverse cultures that continue struggling to obtain their own education.

From the results analyzed, it is evident the evolution of topics that integrate the culture, knowledge and practices of the original communities against what is defined as Sustainable Development. Finally, it is possible to resemble the original cultures, which through their language and beliefs achieve a grounded knowledge of research for education of their own culture (ethno-education), focused on methodologies outside the classroom, with an education based on how to orient the learning process from their visions, beliefs and imaginaries.

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Appendix

Table 2. Tree of Science (ToS).

ToS	Title	Total Citations	Topic
Root	Tuck, E., & Yang, K. W. (2012). Decolonization is not a metaphor. Decolonization: Indigeneity, education & society. Available at < https://doi.org/10.1080/13504622.2013.877708 >	4650	Decolonization
Root	Nakata, M. (2010). La interfaz cultural. La revista australiana de educación indígena. Available at < https://doi.org/10.34236/rpie.v2i2.8 >	761	Indigenous pedagogical research
Root	Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. Available at < https://doi.org/10.3102/00028312032003465 >	9257	Indigenous pedagogical research
Root	Gruenewald, DA (2003). Lo mejor de ambos mundos: una pedagogía crítica del lugar. Available at < https://doi.org/10.3102/0013189X032004003 >	2705	Critical Pedagogy
Root	Nakata, M., Nakata, V., Keech, S. y Bolt, R. (2012). Metas descoloniales y pedagogías para los estudios indígenas. Descolonización: indigeneidad, educación y sociedad. Available at < https://bit.ly/3Q80JNl >	336	Decolonization
Root	Castagno, AE y Brayboy, BMJ (2008). Escolarización culturalmente receptiva para jóvenes indígenas: una revisión de la literatura. Available at < https://doi.org/10.3102/0034654308323036 >	1067	Indigenous education
Root	Martin, K. y Mirraabooa, B. (2003). Formas de conocer, ser y hacer: un marco teórico y métodos para la investigación indígena e indigenista. Available at < https://doi.org/10.1080/14443050309387838 >	1160	Indigenous pedagogical research
Root	París, D. (2012). Pedagogía de sostenimiento cultural: un cambio necesario en la postura, la terminología y la práctica. Available at < https://doi.org/10.3102/0013189X12441244 >	2966	Indigenous pedagogical research
Root	Wolfe, P. (2006). Colonialismo de colonos y eliminación de los nativos. Available at < https://doi.org/10.1080/14623520601056240 >	4488	Decolonization
Trunk	Bang, M., Curley, L., Kessel, A., Marin, A., Suzukovich III, ES y Strack, G. (2014). Teorías de la rata almizclera, tabaco en las calles y vivir Chicago como tierra indígena. Available at < https://doi.org/10.1080/13504622.2013.865113 >	221	Decolonization
Trunk	Madden, B. (2015). Itinerarios pedagógicos para la educación indígena con / en la formación docente. Available at < https://doi.org/10.1016/j.tate.2015.05.005 >	101	Indigenous education
Trunk	Marker, M. (2006). Después de la caza de ballenas Makah: conocimiento indígena y límites al discurso multicultural. Available at < https://doi.org/10.1177/0042085906291923 >	179	Indigenous knowledge
Trunk	Sutherland, D. y Swayze, N. (2012). La importancia del lugar en la educación científica indígena. Available at < https://doi.org/10.1177/097340820900400110 >	29	Indigenous pedagogical research
Trunk	McCarty, T. y Lee, T. (2014). Pedagogía crítica para el sostenimiento, revitalización cultural y la soberanía de la educación indígena. Available at < https://doi.org/10.17763/haer.84.1.q83746n15pj34216 >	596	Indigenous pedagogical research
Trunk	Mackinlay, E. y Barney, K. (2014). Posibilidades desconocidas y desconocidas: aprendizaje transformador, justicia social y pedagogía descolonizadora en los estudios indígenas australianos. Available at < https://doi.org/10.1177/1541344614541170 >	81	Decolonization
Trunk	Martin, G., Nakata, V., Nakata, M. y Day, A. (2017). Promover la persistencia de los estudiantes indígenas a través de la docencia en la Interfaz Cultural. Available at < https://doi.org/10.1080/03075079.2015.1083001 >	48	Indigenous knowledge

Trunk	Harrison, N. y Skrebneva, I. (2020). El país como pedagógico: promulgación de una base australiana para una pedagogía culturalmente receptiva. Available at < https://doi.org/10.1080/00220272.2019.1641843 >	11	Pedagogical research
Trunk	Bishop, R., Berryman, M., Cavanagh, T. y Teddy, L. (2009). Te kotahitanga: abordar las disparidades educativas que enfrentan los estudiantes maoríes en Nueva Zelanda. Available at < https://doi.org/10.1016/j.tate.2009.01.009 >	474	Pedagogical research
Trunk	Yunkaporta, T. y McGinty, S. (2009). Recuperación del conocimiento aborigen en la interfaz cultural. Available at < https://doi.org/10.1007/BF03216899 >	182	Indigenous knowledge
Leaves	Dreamson, N. (2018). Alianzas pedagógicas entre culturas indígenas y no dualistas: Educación metacultural. Available at < https://doi.org/10.4324/9780429458811 >	6	Indigenous pedagogical research
Leaves	Dreamson, N. (2016). Reinventar la educación intercultural: un manifiesto metafísico para repensar la diversidad cultural. Available at < https://Reinventing+Intercultural+Education >	12	Indigenous pedagogical research
Leaves	Burgess, C., Tennent, C., Vass, G., Guenther, J., Lowe, K. y Moodie, N. (2019). Una revisión sistemática de las pedagogías que apoyan involucra y mejoran los resultados educativos de los estudiantes aborígenes. Available at < https://doi.org/10.1007/s13384-019-00315-5 >	12	Pedagogical Research
Leaves	Scully, A. (2020). Educación basada en la tierra y el lugar crítico en la preparación de maestros canadienses: pedagogías complementarias para el complejo. Available at < https://bit.ly/3a0YnQG >	6	Indigenous pedagogical research
Leaves	Burgess, C., Bishop, M. y Lowe, K. (2020). Descolonización de la educación indígena: el caso de la tutoría cultural para apoyar la reproducción del conocimiento indígena. Available at < https://doi.org/10.1080/01596306.2020.1774513 >	5	Decolonization
Leaves	Weuffen, SL, Cahir, F. y Pickford, AM (2017). La centralidad de los talleres culturales aborígenes y el aprendizaje basado en la experiencia en un curso de formación inicial para profesores: un estudio de caso regional de la Universidad de Victoria. Available at < https://doi.org/10.1080/07294360.2016.1242557 >	9	Indigenous pedagogical research
Leaves	Sosa-Provencio, MA, Sheahan, A., Desai, S. y Secatero, S. (2020). Principios de la pedagogía arraigada en el cuerpo y el alma: enseñanza para la conciencia crítica, la resistencia nutrida y la curación. Available at < https://doi.org/10.1080/17508487.2018.1445653 >	13	Pedagogical Research
Leaves	Hino, N. (2018). Educación EIL para el círculo en expansión: un modelo japonés. Available at < https://doi.org/10.4324/9781315209449 >	28	Pedagogical Research
Leaves	Hino, N. (2020). Educación ELF para el contexto japonés. Disponible en < https://doi.org/10.1007/978-3-030-33288-4_2 >	1	Pedagogical Research
Leaves	Higgins, M. (2014). Pedagogía y pedagoga descolonizadora: Educación científica a través de la videografía participativa y reflexiva. Available at < https://doi.org/10.1080/14926156.2014.903321 >	35	Decolonization