

Qualitative analysis on public policy and interculturality applied in three Ecuadorian Universities

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Abstract

Interculturality in the higher education system is an increasingly important topic worldwide, as it promotes respect and appreciation for cultural diversity. The implementation of intercultural policies in higher education institutions can help create an inclusive and multicultural environment that benefits the entire educational community. Data on the implementation of policies related to interculturality in the Ecuadorian Education System were collected from three public universities, Universidad de Cuenca (UC), Universidad Estatal de Bolívar (UEB), and Universidad Nacional del Chimborazo (UNACH), during the period 2019-2021. The qualitative and statistical analysis of the obtained data was validated by the use of computer tools, which allowed the subjectivity of the information to be eliminated to some extent. The results obtained determine a significant influence of public policy on the Ecuadorian higher education system, however, the perception and practical application have not been effective.

Keywords: Interculturality; Higher education; Public policy; Qualitative research; Computer Tools.

Introduction

Interculturality in higher education systems is an issue of great importance today, due to globalization and growing cultural diversity in societies. Interculturality in higher education refers to valuing and respecting different cultures and promoting intercultural dialogue in educational institutions.

According to Arango (2010), interculturality in higher education is a process that fosters inclusion and recognition of cultural diversity in

teaching and learning processes. Likewise, Arango highlights that interculturality in higher education contributes to the formation of global citizens who are able to understand and respect cultural diversity.

On the other hand, Vavoula and Pachler (2016) point out that interculturality in higher education prepares students to work and live in an increasingly globalized world. In this way, intercultural higher education contributes to the development of skills and competencies that are fundamental to face the challenges of an increasingly diverse and multicultural world.

Interculturality in the higher education system is an increasingly important issue throughout the world, as it allows promoting respect for and appreciation of cultural diversity. The implementation of intercultural policies in higher education institutions can help create an inclusive and multicultural environment that benefits the entire educational community.

According to Vavoula and Pachler (2016), "interculturality in higher education refers to the creation of a learning environment that values and respects cultural diversity, fosters inclusion and intercultural dialogue, and prepares students to work and live in an increasingly globalized world"

Intercultural policies in higher education vary around the world and depend on factors such as the history, culture and structure of each country and region. In Latin America, for example, there is a focus on promoting interculturality in higher education as a way to respond to the cultural diversity of the region (Ferrari et al., 2018). In Europe, on the other hand, there has been a focus on creating intercultural policies that encourage student mobility and cooperation between higher education institutions from different countries (Vavoula & Pachler, 2016). In Asia, the implementation of intercultural policies in higher education has focused on addressing challenges related to cultural diversity and preparing students to work and live in an increasingly globalized world (Wang & Kaur, 2019).

The qualitative analysis of interculturality is a fundamental tool in the understanding of the dynamics and processes that occur in situations of contact between different cultures. According to Denzin and Lincoln (2018), qualitative analysis focuses on the study of complex and varied phenomena, in which the subjectivity of individuals and the context in which they operate are taken into account. Therefore, the qualitative analysis of interculturality focuses on the exploration of the perceptions, meanings and practices that emerge in the interaction between people from different cultures.

In this sense, it can be affirmed that the qualitative analysis of interculturality has as its main objective the development of a deep and detailed understanding of intercultural experiences and the implications

they have on people's lives and on the construction of cultural identities. According to Geertz (1973), qualitative analysis focuses on the interpretation of cultural meanings and symbols, allowing the understanding of practices and actions that develop in intercultural situations.

On the other hand, data mining and statistical analysis are increasingly used tools in the study of interculturality. These techniques allow the analysis of large data sets in order to identify patterns and relationships between variables. According to Han, Kamber and Pei (2012), data mining focuses on extracting useful information from large data sets, allowing the identification of patterns and trends that can be used to make informed decisions.

In the context of interculturality, data mining and statistical analysis can be applied to the study of cultural diversity and the dynamics that emerge in situations of contact between different cultures. According to Vyas and Acharya (2019), these techniques allow the exploration of differences and similarities between cultures, which can contribute to the understanding of intercultural barriers and the identification of strategies to overcome them. In addition, statistical analysis applied to the study of interculturality can be used to identify factors that influence intercultural adaptation and the construction of cultural identities. According to Berry (2017), statistical analysis is a useful tool for exploring the relationships between variables and identifying factors that influence intercultural adaptation and the construction of cultural identities.

In summary, interculturality in higher education systems is essential to promote inclusion, respect and appreciation of cultural diversity, as well as to prepare students to face the challenges of an increasingly globalized society.

The objective of our research was to analyze the results and application of public policy regarding interculturality after its implementation in the Ecuadorian Education System through the use of qualitative research and different computer tools.

Methodology

The data on the implementation of policies regarding interculturality in the Ecuadorian Education System were taken in three public universities: University of Cuenca (UC), State University of Bolívar (UEB) and National University of Chimborazo (UNACH) during the period 2019-2021 thanks to the research project called "Interculturality as public policy in the Ecuadorian university: speeches and practices in the universities of Cuenca, Nacional de Chimborazo and Estatal de Bolívar" the same that was financed by the CEDIA corporation in its CEPRA VI call

Public policy

For the analysis of the public policy issued and implemented in Ecuador, the following documents were taken as reference: Organic Law of Higher Education (LOES), Regulations of Academic Regime 2013 and 2019 (RRA 2013- RRA 2019), Internal Statutes of the University of Cuenca (UC) State University of Bolívar (UEB) and National University of Chimborazo (UNACH) and Career Projects presented by the Faculties of Education Sciences prepared between 2015 and 2021

Definition of careers subject to analysis and coding

The careers offered in the faculties of Education Sciences of the three universities were selected. This consideration was based on the importance given to interculturality during the proposal of curricular designs or redesigns and the time they had for their implementation. Coding was based on Table 1

Table 1 Codification of career designs subjects of study in the three universities

University	Career name	Code/ ACRONY MS	Redesign dates		
UEB	Intercultural Bilingual Education	EIB	24/8/2016	15/9/2021	
UEB	Early Childhood Education	NO	20/4/2016	28/7/2021	
Web	Computer Pedagogy	PINF	19/10/2016	1/12/2021	
Web	Basic education	DOG	15/6/2016	28/7/2021	
Web	Pedagogy of Mathematics and Physics	PMF	24/8/2016	22/1/2022	
UC	Basic education	DOG	22-12-2015	09-07-2019	
UC	Early Childhood Education	NO	22/12/2015	09-07-2019	
UC	Pedagogy of Physical Activity and Sport	PAFD	22/12/2015	09-07-2019	
UC	Pedagogy of History and Social Sciences	PHCS	22/12/2015	09-07-2019	
UC	Pedagogy of Language and Literature	PLL	22/12/2015	09-07-2019	
UC	Pedagogy of Arts and Humanities	PAH	22/12/2015	09-07-2019	
UC	Pedagogy of Mathematics and Physics	PMF	22/12/2015	09-07-2019	
UC	Pedagogy of National and Foreign Languages	PINE	22/12/2015	09-07-2019	
UNACH	Basic education	DOG	05-10-2015	25-01-2019	16/03/2020

UNACH	Early Childhood and Initial Education	NO	05-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of Arts and Humanities	PAH	05-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of Physical Activity and Sports	PAFD	23-12-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of History and Social Sciences	PHCS	05-10-2015	25-01-2019	16/03/2020
UNACH	Computer Pedagogy	PINF	05-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of Language and Literature	PLL	21-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of National and Foreign Languages	PINE	05-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of Mathematics and Physics	PMF	05-10-2015	25-01-2019	16/03/2020
UNACH	Pedagogy of Chemistry and Biology	PQB	05-10-2015	25-01-2019	16/03/2020
UNACH	Psychopedagogy	PSP	05-10-2015	25-01-2019	16/03/2020

Definition of research protocols and techniques

Instruments and methodological guides were developed based on the macro, meso and micro curriculum that are the basis for the establishment of the Ecuadorian academic offer. Validated surveys were established as research techniques

Sample size

In the three universities, surveys were applied to 122 professors and 517 students of the careers selected for the study. In the case of interviews, these were applied to 9 authorities (Rectors, Academic Vice-Rectors and Vice-Rectors for Research) authorities and focus groups were held with 19 participants (Career Coordinators)

Qualitative and statistical analysis of information

For the qualitative analysis of the information, the QDA MINER LITE program was initially used, defining cases, variables and finally coding the information of each of the designs/redesigns of the careers under study according to what is established in Table 1.

Figure 1 Organization and coding of information applied to career designs/redesigns with QDA MINER LITE

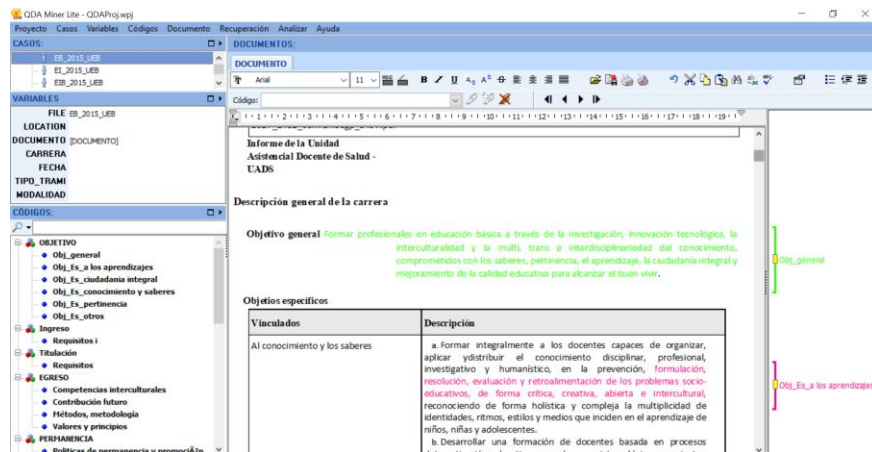
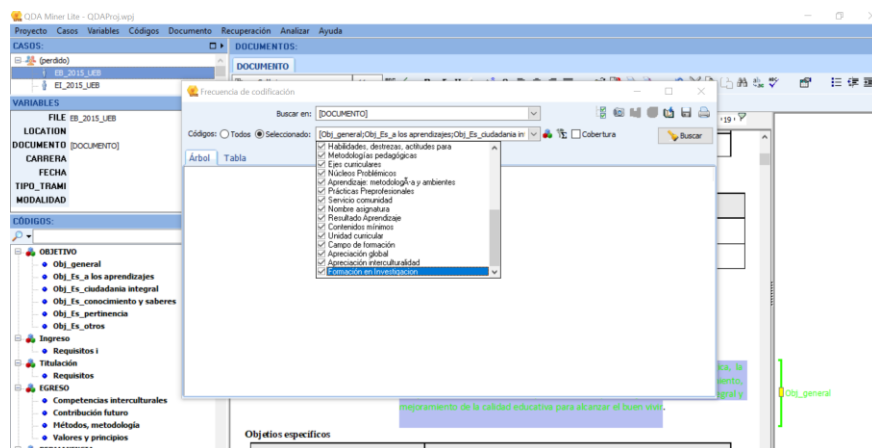


Figure 2 Frequency analysis of information applied to career designs/redesigns with QDA MINER LITE



On the other hand, the surveys were designed and weighted using a Likert scale. Once the data resulting from the surveys, interviews and focus groups were quantified, they were submitted to the statistical software IBM SPSS Statistics 25 applying Pearson's non-parametric Chi-Square test to establish the degree of significance of the information processed ($P < 0.05$)

Results

Next, only the main results found on interculturality, its application and perception in the Ecuadorian universities under study are written.

Main findings found in Ecuadorian public policy regarding interculturality in higher education

The Constitution of the Republic of Ecuador approved in 2008 in its first article is redefined as a "constitutional State of rights and justice, social, democratic, sovereign, independent, unitary, intercultural (emphasis added), Multinational and layman. In this sense, the State is guarantor and responsible for the fulfillment of rights, thus "... No one may be discriminated against on grounds of ethnic group, place of birth, age, sex, gender identity, cultural identity (CONSTITUTION OF THE REPUBLIC OF ECUADOR 2008 Legislative Decree 0 Official Register, n.a.)

On the other hand, the LOES was reformed in 2018 and defines higher education as: "of a humanistic, intercultural and scientific nature as a right of people and a social public good" (LOES, art. 3, 2018). It is a right that promotes "the effective exercise of opportunities" where "citizens in individually and collectively, communities, peoples and nationalities have the right and responsibility to participate in the higher education process." (ORGANIC LAW OF HIGHER EDUCATION, LOES, n.a.)

Similarly, the LOES establishes that within the purposes of higher education are: "c) Contribute to the knowledge, preservation and enrichment of ancestral knowledge and national culture", g) Build spaces for the strengthening of the constitutional State ... (k) To develop, strengthen and strengthen the system of higher bilingual intercultural education, with quality criteria and in accordance with cultural diversity; and (l) To strengthen the use of ancestral languages and cultural expressions in the different fields of knowledge."

In November 2013, the Council of Higher Education (CES) issued the Academic Regime Regulation (RRA), which follows the line of the aforementioned normative bodies. This can be evidenced from the approach of the objectives: "c. Promote the diversity, comprehensiveness, flexibility and permeability of curricular plans and academic itineraries, understanding these as the sequence of levels and contents in learning and research ... f. Contribute to the training of human talent and the development of professionals and critical, creative, deliberative and ethical citizens, who develop scientific knowledge. technological and humanistic, committing to the transformations of social and natural environments, and respecting interculturality, gender equality and other constitutional rights" (RRA, art. 2, 2015), which is maintained without further modification in article 3 of the RRA 2017, but which are deleted in the version of the year 2020 (REGULATION OF ACADEMIC REGIME, n.a.)

With this normative base, the Universities subject of study include interculturality within their statutes, this legal instrument being the main document that allows the development of substantive functions within the Ecuadorian Higher Education Institutions (IES).

In this context, the UC Statute establishes as a right of students to receive a quality, secular, intercultural, democratic, inclusive and diverse

higher education that promotes gender equity, justice, peace and sustainability. On the other hand, the statute of the UNACH establishes to create, develop, transfer and disseminate knowledge, knowledge and culture through the application of processes of academic training, research and linkage; under principles of relevance, integrality, interculturality, equity, preservation of the environment, strengthening human talent, for the construction of a better society. Something very similar happens with the UEB whose statute promotes the development of knowledge, science, technology, culture and interculturality; through teaching, research and linking with society (C. E. S. - Official Gazette, n.a.)

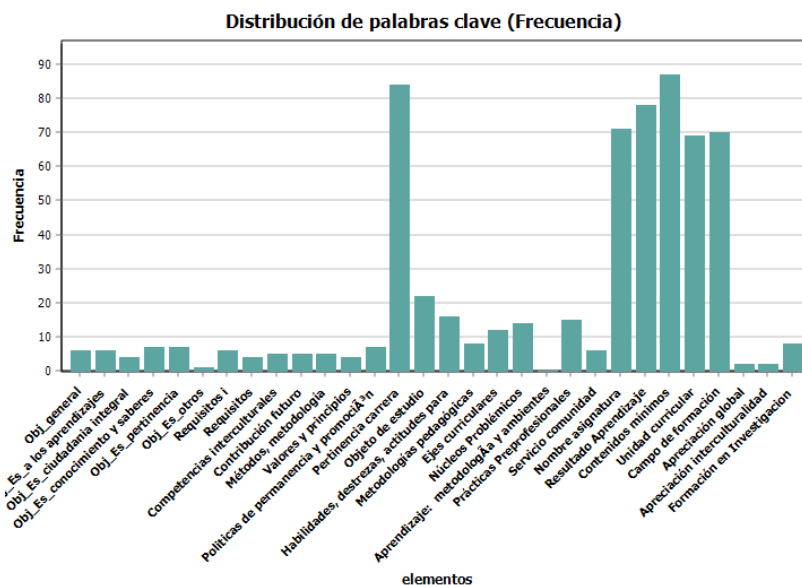
Qualitative analysis

Next, the most relevant data regarding interculturality are presented once the data was analyzed with the help of QDA MINER LITE, the patterns and relationships between the coded designs/redesigns were determined. The information present in the documents where relevance on interculturality is found are shown in figures 3 and 4.

Figure 3 Frequency results of information applied to career designs/redesigns

	Cuenta	% Códigos	Casos	% CASOS
 OBJETIVO				
• Obj_general	6	0,9%	5	100,0%
• Obj_Es_a los aprendizajes	6	0,9%	5	100,0%
• Obj_Es_ciudadania integral	4	0,6%	4	80,0%
• Obj_Es_conocimiento y saberes	7	1,1%	4	80,0%
• Obj_Es_pertinencia	7	1,1%	5	100,0%
• Obj_Es_otros	1	0,2%	1	20,0%
 Ingreso				
• Requisitos i	6	0,9%	5	100,0%
 Titulación				
• Requisitos	4	0,6%	4	80,0%
 EGRESO				
• Competencias interculturales	5	0,8%	3	60,0%
• Contribución futuro	5	0,8%	4	80,0%
• Métodos, metodología	5	0,8%	4	80,0%
• Valores y principios	4	0,6%	4	80,0%
 PERMANENCIA				
• Políticas de permanencia y promoción	7	1,1%	5	100,0%
 PERTINENCIA				
• Pertinencia carrera	84	12,8%	5	100,0%
 OBJETO				
• Objeto de estudio	22	3,4%	5	100,0%
 ENFOQUE GENERO E INTERCULTURALIDAD				
• Habilidades, destrezas, actitudes para	16	2,4%	4	80,0%
• Metodologías pedagógicas	8	1,2%	4	80,0%
 CAMPOS DE ESTUDIO				
• Ejes curriculares	12	1,8%	4	80,0%
• Núcleos Problemáticos	14	2,1%	5	100,0%
 METODOLOGÍAS APRENDIZAJE				
• Aprendizaje: metodologías y ambientes				
 VINCULACION				
• Prácticas Preprofesionales	15	2,3%	4	80,0%
• Servicio comunidad	6	0,9%	4	80,0%
 MICROCURRICULO				
• Nombre asignatura	71	10,9%	5	100,0%
• Resultado Aprendizaje	78	11,9%	5	100,0%
• Contenidos mínimos	87	13,3%	5	100,0%
• Unidad curricular	69	10,6%	5	100,0%
• Campo de formación	70	10,7%	5	100,0%
 Reflexión				
• Apreciación global	2	0,3%	2	40,0%
• Apreciación interculturalidad	2	0,3%	2	40,0%
 Investigación				
• Formación en Investigación	8	1,2%	5	100,0%

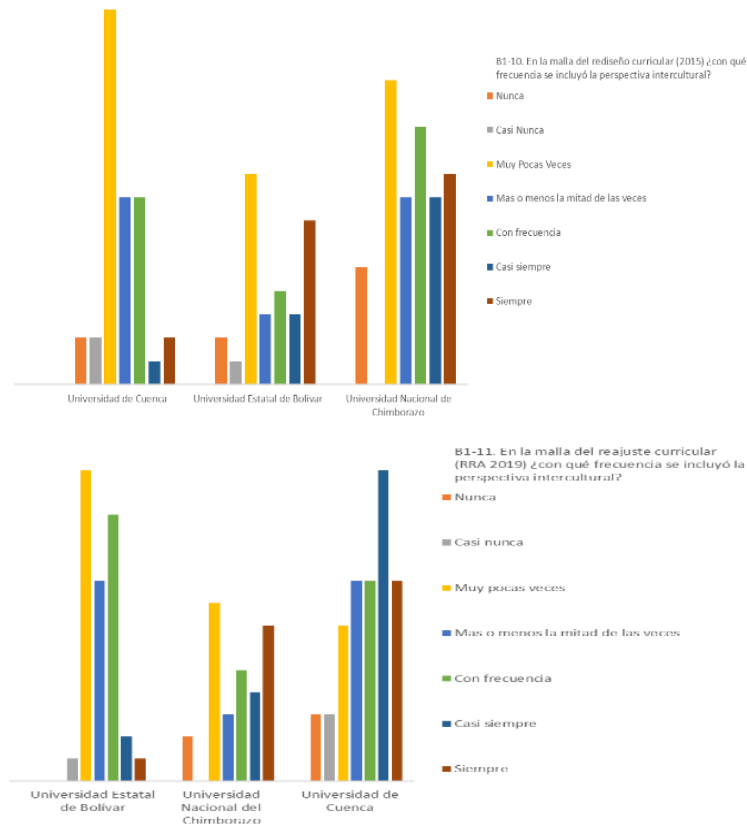
Figure 4 Frequency distribution in relation to the encoding of elements analyzed with QDA MINER LITE



In figures 3 and 4 we can observe the frequency in which interculturality is approached according to the pre-established coding for qualitative processing with the help of QDA MINER LITE. The relevance, the names of the subjects, the learning outcomes, the minimum contents, the curricular units and the fields of training constitute the elements of the curricular meshes with greater approach and / or mentions on interculturality.

Statistical analysis

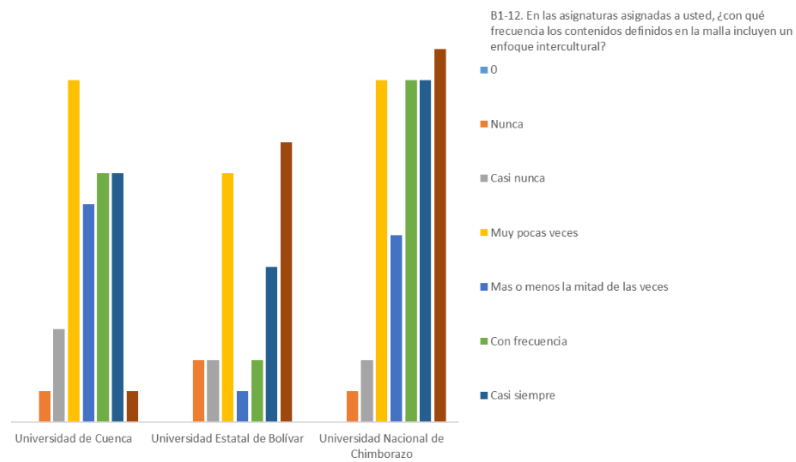
Figure 5 Intercultural perspective expressed in the curricula of 2015 and 2019 by university



P-value < 0.005 Pearson's Chi Square

The comparison between the 2015 and 2019 curricula and their intercultural perspective. In 2015, according to the predetermined Likert scale (Never, Almost never, Very rarely, About half the time, Often, Almost always, Always) it is established as "very rarely" addressed the intercultural issue. While the trend in 2019 is similar on average the scale in the three universities improves to "frequently"

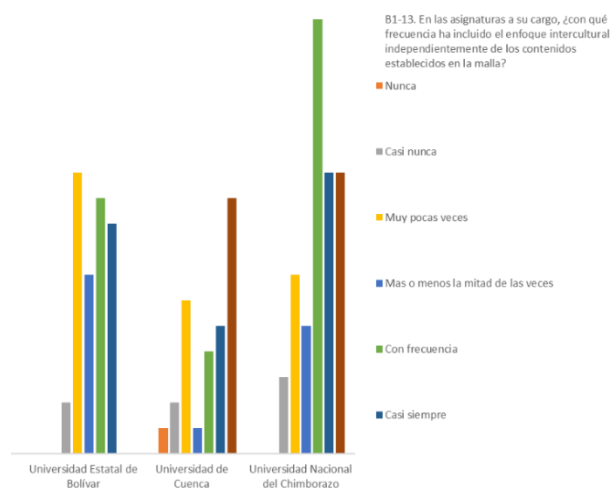
Figure 6 Perspective of the Inclusion of the intercultural approach in the content in the curricular meshes by University



P-value < 0.005 Pearson's Chi Square

The statistical analysis of the surveys using SPSS for the 3 universities, in addition to the statistical validation of the data with a Chi Square test. Although the three universities show different behavior, the default Likert scale (Never, Almost never, Very rarely, About half the time, Often, Almost always, Always) determines as "very rarely" the frequency of content in reference to interculturality

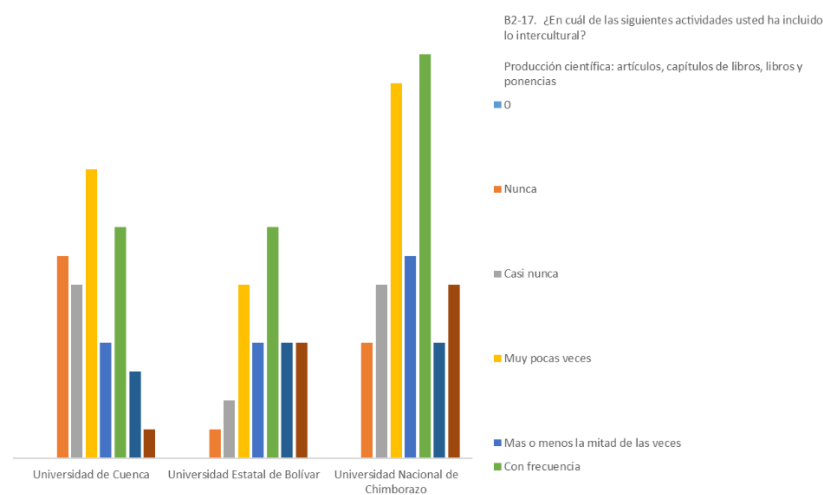
Figure 7 Intercultural approach by teachers without the influence of the contents in the curricula by University



P-value < 0.005 Pearson's Chi Square

The inclusion of teachers on the intercultural theme regardless of the contents established in the curricula is shown in Figure 7. In this case, the answers by university present great differences. UEB teachers claim to have rarely addressed the intercultural issue. The UC, for its part, claims to have almost always addressed the intercultural issue and the UNACH frequently. That is, there is a marked dispersion of results

Figure 8 Inclusion of the intercultural approach in scientific production by University



P-value < 0.005 Pearson's Chi Square

Figure 8, on the other hand, shows us the importance that universities have given to scientific production (scientific articles, books, book chapters, relevant works). The UC mentions having included the intercultural theme very few times. The UEB states that it has frequently included the intercultural theme as does the UNACH

Discussion

Ecuador has made great efforts to incorporate into its legal system premises that guarantee interculturality, including the Constitution of the Republic, the LOES, the different RRAs, the Internal Statutes of the IES and career designs/redesigns. In general, the guidelines imposed in the regulations try to promote diversity, interculturality and plurinationality. The Higher Education System has developed great efforts to promote the inclusion of interculturality in the curricula, in fact, work has been done on this issue in a particularized way and great investment has been made in this regard, ensuring that the regulations governing Ecuadorian Universities are intercultural. However, from the results obtained, in practice it has not been possible to implement the standard effectively. Leeman in 2019, states that there is an absence of

intercultural policies and strategies, for interculturality to be implemented effectively in the university, it is necessary to have clear and well-defined intercultural policies and strategies. However, many universities have not yet developed specific policies and strategies to address interculturality.

Contrary to what is expressed in the regulations, teachers (research professors) when questioned about the application of interculturality pose a different scenario. With the RRA of 2015 they claim to have rarely included the intercultural issue in the curricula. On the other hand, with the RRA 2019, they state that they have frequently included the intercultural theme in the curricular meshes. These results show an evolution in their perception, but would also show that teachers are not completely identified with the curricular meshes or do not know in depth the content of the same. According to Hernández in 2017, there is a lack of intercultural knowledge and awareness on the part of university staff. For interculturality to be effective, it is necessary for university staff to be prepared and have intercultural skills to interact with students from different cultural backgrounds. The lack of intercultural knowledge and awareness can result in prejudice and discrimination, making it difficult to apply interculturality in the university.

The analysis carried out to the curricular meshes in most cases of the careers analyzed by data mining, provides us with an idea of which were the segments where greater importance was given to the intercultural theme, the main ones being the relevance, the minimum contents, the fields of training and the learning results. This raises academic coherence with respect to the Ecuadorian educational model. Data mining is an important tool for analyzing large data sets and gaining valuable insights. The application of data mining to intercultural issues has generated interest in recent years, as it allows analyzing data related to culture and obtaining useful knowledge for the implementation of intercultural policies.

In the research article entitled "The study of cultural diversity using data mining techniques" examines the use of data mining techniques to analyze cultural diversity in a multinational company. The authors demonstrate that data mining can help identify cultural patterns and provide valuable insights for the management of cultural diversity (García-Sánchez et al., 2017). For their part, Kohnert and others in 2021 in their study called "Data mining and text analysis in intercultural research" propose a methodological approach to use data mining and text analysis in intercultural research. The authors discuss the usefulness of these techniques for analyzing large datasets and extracting relevant information on intercultural issues.

factors and prevent cultural conflicts (Yamamoto et al., 2019)

Interculturality in universities has become an increasingly relevant topic, as higher education institutions strive to respond to the cultural diversity

of their students and staff. However, there are difficulties in its implementation.

Language can be a major barrier to the effective application of interculturality at university, especially in contexts where students have different mother tongues (Kaplan & Baldauf, 2019). It is necessary to implement strategies to facilitate communication and learning in a multilingual environment.

Interculturality in the university implies recognizing and valuing different forms of knowledge and pedagogies. However, this may conflict with dominant conceptions of education and learning at university (Piller, 2016).

Conclusions

Although Ecuador has made significant progress in the elaboration of public policy that promotes interculturality, in practice it has not been implemented with the expected results.

The Ecuadorian HEIs subject of this study propose similar scenarios with some particularity in terms of their perception. This would respond to a large extent to the geographical, ethnic and political scenario in which they operate in a particular way.

It becomes necessary to establish management and monitoring processes for the application of public policy in Ecuadorian and probably Latin American universities, in this way the results of its application regarding egalitarian practices can be measurable with greater certainty.

In summary, the implementation of intercultural policies in higher education is essential to promote inclusion and intercultural dialogue, and prepare students to work and live in an increasingly diverse and globalized world. Through the implementation of intercultural policies in higher education institutions, we can create an inclusive and multicultural environment that benefits the entire educational community.

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