

Construction and Validation of an Instrument to Measure Intercultural Citizenship in University Students

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ABSTRACT

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The purpose of this study was to determine the validity and reliability of a questionnaire to investigate the perception of intercultural citizenship. The design was instrumental in the quantitative approach. The sample consisted of 1,200 high school students between the ages of 11 and 17 from public schools at UGEL 06 in Lima. The basis of the intercultural citizenship questionnaire forms the dimensions of participation and coexistence assumed from the work of Palou, Rodríguez and Vila (2014). As results, an Aiken validity index of 1.00 was found, which indicates a high concordance and high internal consistency of the questionnaire through Cronbach's alpha coefficient, yielding a value of 0.920, which suggests a high reliability in the results obtained.

Keywords: reliability, validity, citizenship, interculturality, high school students

INTRODUCTION

Humanity, despite conquering the distance between the Earth and the Moon and exploring the depths of the sea, has also erected barriers between individuals, becoming trapped in a sphere of isolation and loneliness, despite having achieved amazing feats. A passage from Eliot's book *The Chorus of the Rock* might represent the description of this period: "As we expand our knowledge, we approach our own ignorance; As our ignorance increases, we approach death. However, the proximity of death does not bring us closer to the divine." Therefore, it could be argued that not even our proximity to death has brought us closer to our fellow human beings.

In this context, cultural and social diversity, together with its benefits, has become an opportunity and, at the same time, a challenge for the disciplines of the social sciences. As Sotolongo (2006) stated, the need arises for new perspectives that can understand the world as dynamic systems. In this way, it will cease to be a collection of objects and, on the contrary, will be presented to the mind and knowledge as a reality in which complex networks, emergence and evolution interact.

In the case of Peru, schools have evolved into centers of cultural exchange. Indigenous and Amazonian communities have experienced an increase in social mobility in recent years. Today, it is possible to find in the cities and their schools human groups, families who have moved to the regional capitals and, above all, to the capital of the country. Although the reasons for migration are varied, it represents a challenge for schools to promote an education that respects the rights and particularities of these people, with the purpose of integrating and accepting them. This

translates into promoting intercultural citizenship, which implies an identity open to the world and the search for societies free of historical barriers, avoiding reductionism, authoritarianism and traditionalism, and, instead, encouraging personal fulfillment.

The possibility of achieving a genuine and solid identity, to a large extent, is established through educational content and methods that allow, in some way, to achieve what Carpentier (2008) expressed: "Man born, raised, formed in our proliferating cities of reinforced concrete [...] he has the inescapable duty to know his classics, to reread them, to meditate on them, to find their roots, to try to know who he is and what role he will play" (p. 4). The need to know our roots is a path towards appropriating the legacy of our people. This strengthens our identity as a distinctive trait that we value, creating a sense of pride in our culture and respect for others. In addition, it helps us to understand what role we must play, assuming conscious responsibilities towards others, promoting collaborative coexistence and democratic participation; that is, exercising intercultural citizenship.

According to Aguirre (2018), Peruvians, due to their deep roots from a past enriched by diverse cultures, have the potential to build a society rooted in its original values. However, it can also be conceived as open to the world. However, Peru remains a nation of divisions, socially fragmented and affected by environmental problems. In addition, high levels of individualism, discrimination, exclusion and various conflicts that affect social cohesion persist. According to the National Educational Project (2007), Peru continues to be a country marked by centralism and exclusion. It is a country of inequalities and gaps. The country is experiencing an increase in inequalities and, therefore, social discontent. The values of the dominant culture have subordinated the weaker culture.

According to Indepa (2010), many cultures have disappeared due to the devastation of their natural environment. Peru, as a nation, is losing knowledge and cultural values due to the extinction of some ethnic groups. Globalization is imposing cultural homogenization in an overwhelming way, resulting in weak national self-esteem, in part due to inadequate policies for the preservation, promotion and protection of culture in a globalized world. Despite having deep cultural roots, Peru still lacks geopolitical cohesion and identity.

A report by the Ministry of Culture (2014) on discrimination and racism indicates that 39% of Peruvians feel that they are discriminated against because of their race, 78.9% consider Peru to be a racist country and 89.5% of Lima residents believe that there are discriminatory attitudes towards the inhabitants of provinces. Social and economic inequalities are related to deficiencies in human education and citizenship education, in systems that are shaped by approaches and paradigms. Educational paradigms continue to be unilateral and elitist. Although the aspiration to achieve just, inclusive, intercultural and supportive societies with intercultural citizens remains a desired goal, so far, these aspirations remain in the declarative realm.

It is therefore crucial, without neglecting the global development of knowledge, to critically embrace foreign contributions and create authentic personalities with intercultural citizenship. As José Martí said, "Grafting the world onto our republics" implies the construction of a society characterized by intercultural citizenship. This must be based on our own culture and its values. In this regard, Octavio Paz also proclaimed: "Latin American man does not need wings, but roots." In other words, to recognize ourselves, to build our identity and, on that basis, to seek understanding with others. Without knowing who we are, opening ourselves to the world would be a misdirection.

The notion of intercultural citizenship emerges as a theoretical concept that develops from the dynamic fusion of data, ideas, and categories. Its prominence aligns with the demands of contemporary society, in which new identities emerge in the context of a legal system based on citizen rights. This concept, according to Poblet (as cited in Aguirre, 2018), is characterized by being integrative and pursues the unification of all cultures that coexist in the same geographical territory. This approach encompasses a unitary perspective that is not limited to the recognition of the singularities and values of both individuals and their respective cultures, but considers them as capacities for synergistic interaction and relationship in an environment of mutual acceptance.

Within this environment, Aguirre (2018) developed the intercultural citizenship questionnaire with the aim of collecting information on this concept. The construction of the questionnaire was based on the dimensions of participation and coexistence, taking as a reference the previous work of Palou, Rodríguez, and Vila (2010).

The dimension of intercultural coexistence involves the daily interaction between individuals from different cultures, with the purpose of exchanging ideas with respect and achieving integration. This is the essence of intercultural coexistence. In this regard, Aramburú (as cited in Palou, 2014) pointed out that living together implies the creation of environments in which differences can be debated and conflicts regulated, ensuring that all parties and voices are present without exclusion. From this process, several shared public spaces can emerge.

The participation dimension is understood as the active, committed and respectful activity on the part of the individual in the exercise of citizenship. This involves practicing collaborative skills and attitudes within the community, with sincere commitment to and respect for the principles of the rule of law. According to Campos and Giner (as cited in Palou, 2014), democracy is a political system and, in turn, a form of coexistence, in which the representation of different interests should be forged through dialogue and solidarity.

Based on the critical analysis of the aforementioned contributions, this study defines intercultural citizenship competencies as the set of knowledge, cognitive, emotional and communicative skills that allow people to interact in coexistence and participate in the construction of a democratic, peaceful and inclusive society.

As Aguirre et al. (2019) point out, interculturality functions as an approach that promotes respect, acceptance, exchange, and constructive dialogue between diverse ethnic and cultural groups. In this approach, each group contributes and benefits from each other, which makes it possible to creatively confront cultural encounters, the possible loss of identity, as well as manifestations of discrimination and exclusion, such as racism, machismo, authoritarianism, ethnocentrism, traditionalism and regionalism.

The purpose of the intercultural citizenship questionnaire is to explore the perception that students between 11 and 17 years old have regarding intercultural citizenship. The design of the questionnaire was based on the dimensions of participation and coexistence, taking as a reference the work of Palou and other authors, as cited in Aguirre (2018). The questionnaire consists of 21 statements presented on a 5-point Likert-type scale, ranging from "strongly disagree" to "strongly agree." These statements are divided into two dimensions: 10 statements (numbers 12 to 21) correspond to the dimension of participation, and the remaining 11 statements (numbers 1 to 11) correspond to the dimension of coexistence.

Aguirre (2018) conducted a preliminary trial with 100 high school students in a public educational institution, with the purpose of establishing the psychometric parameters of the intercultural citizenship questionnaire. The results of this preliminary test indicate outstanding levels of reliability, with a Cronbach's alpha coefficient of 0.801, denoting high reliability, and a more accurate omega coefficient of 0.77, also suggesting strong reliability. To assess content validity, the Aiken V-index was used, and six experts participated in the process. A high level of content validity was achieved, reaching a value of 0.94, which is considered optimal, with a significance level of $p < 0.05$.

METHOD

The focus of the study was quantitative, with an explanatory level and an instrumental design. It was directed towards the creation of a questionnaire capable of assessing intercultural citizenship in secondary school students, seeking to ensure the validity and reliability of the instrument. This questionnaire was designed to be used in data collection, with the aim of testing hypotheses through numerical measurement and statistical analysis. In this way, the aim was to establish patterns of behavior and corroborate theories (Hernández et al., 2014).

The study population was composed of 2,450 students who were studying from the first to the fifth year of secondary education in RED 3 of UGEL 06 – Vitarte. An intentional, criteria-based, non-probabilistic approach was used for sample selection. The researchers specifically selected a portion of students from each institution and educational level, resulting in a sample of 1,200 students.

The inclusion criterion was established for all students between the ages of 11 and 17 who were present at the time of the administration of the questionnaire and who had completed all the questions in their entirety. Only those students who were available for the questionnaire were taken into account and those who were involved in other activities at that time were excluded.

The intercultural citizenship questionnaire was designed by Felipe Aguirre Chávez, in Lima, Peru, in 2018. It was based on the dimensions of participation and coexistence, taking as a reference the research carried out by Palou, Rodríguez and other authors, as mentioned in Aguirre (2018). The main purpose of the questionnaire was to investigate the perception of students between the ages of 11 and 17 about intercultural citizenship.

RESULT

The software used to analyze the data obtained from the processing of the information collected through the Scale was the IBM SPSS Statistics version 25. Using this program, Cronbach's Alpha reliability coefficient was calculated and exploratory factor analysis was carried out.

Table 1 Table of specifications of the dimensions of intercultural citizenship in secondary school students

Dimensions	indicators	Items
Participation		The cultural diversity of my country makes me feel proud
		I feel comfortable living with students from different cultures
		I'm attracted to the idea of making friends with people from other cultures
		I feel good dealing with students from the Andean area
		I feel good dealing with students from the Amazon area
		I feel good about sharing with students from the Amazon
		I feel good about sharing with Andean students.
		I like to do work with students from the Amazon
		I like to do work with students from the mountains
		I am interested in knowing the customs of other regions
cohabitation		I like to hear different ways of speaking
		I consider participating in the social activities of my community to be a necessity.
		I consider that participating in the educational activities of my school is a necessity.
		It is important to participate in activities of the institution aimed at the community.
		Much of my life is focused on community involvement
		I feel motivated to participate in the activities of my educational institution.
		I think that citizen participation makes a better world
		I feel that it is an obligation to participate in the work of my community.
		It is important to participate with the authorities to improve my community
		It is important to demand that the authorities take action to improve my educational institution
		It is important to demand that the authorities carry out actions for the improvement of the community.

It consists of a set of 21 statements presented in a 5-point Likert-type scale format, ranging from "strongly disagree" to "strongly agree." These statements are organized in two dimensions. A total of 10 statements (from 12 to 21) are part of the participation dimension, while the remaining 11 statements (from 1 to 11) correspond to the coexistence dimension.

KMO Test

This evaluation indicates the feasibility of carrying out a construction analysis, since the sample adequacy index is close to 1 with a value of 0.901, and Bartlett's sphericity test shows a high statistical significance, as reflected in Table 2.

Table 2 KMO and Bartlett Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,901
Bartlett's sphericity test	Approx. Chi-square	3857,209
	Gf	210
	Gis.	,000

Variance explained

The factor analysis has revealed that the total variance explained is divided into two latent factors: the participation dimension and the coexistence dimension. Together, these factors explain 56.262% of the total variance. This indicates that both factors are indicative of the degree of intercultural coexistence. The remaining 43.738% of the variance reflects the influence of other variables on the students' responses.

Table 3 Total variance explained

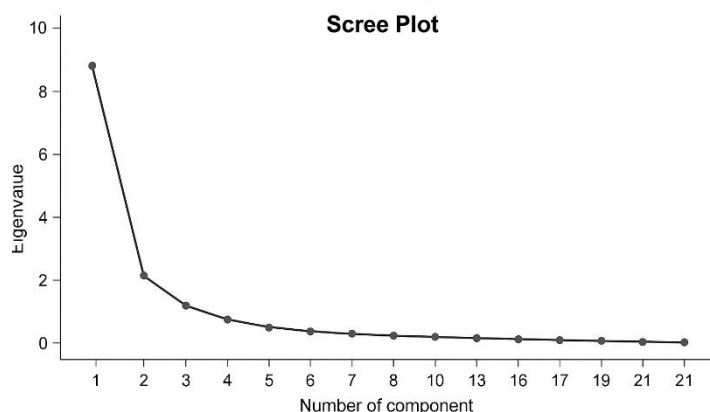
Component	Initial eigenvalues			Sums of charges squared from extraction			Sums of Charges Squared of Rotation		
	% variance		Cumulative %	% variance		Cumulative %	% variance		Cumulative %
	Total			Total			Total		
1	8,405	40,024	40,024	8,405	40,024	40,024	5,862	27,913	27,913
2	1,392	6,629	56,262	2,018	9,609	49,633	4,561	21,720	49,633

Extraction method: principal component analysis.

Sedimentation figure

In relation to the sedimentation graph, the six upper points that are defined by the line parallel to the number of components from the inflection point of the graph stand out, and this line intersects at point one of the eigenvalue. This result indicates that the instrument is composed of two factors: the first is related to the participation dimension, while the second is linked to the coexistence dimension, as illustrated in Figure 1.

Figure 1 Sedimentation graph indicating two dimensions



Rotated Factorial Matrix

To discern the components of the instrument, a total of 25 planned rotations were carried out. Of these, the results revealed that the first 11 interactions presented the most pertinent and significant correlations, as observed in the matrix.

Table 3 *Rotated Component Die*

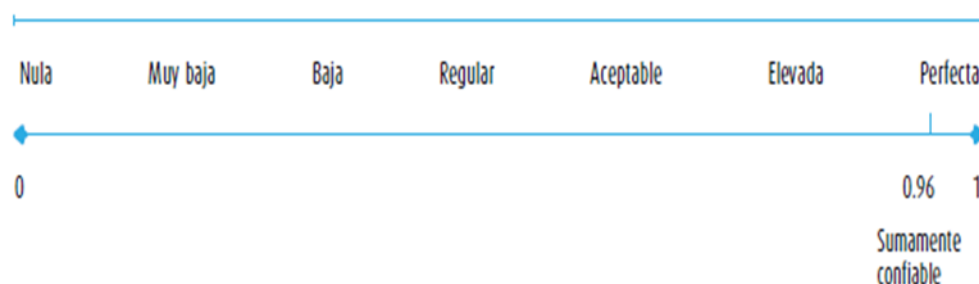
	Component	
	1	2
1. The cultural diversity of my country makes me feel proud	,401	
2.Me feel comfortable living with students from different cultures	,699	
3.Me the idea of making friends with people from other cultures appeals	,716	
4.Me feel good about dealing with students from the Andean area	,811	
5.Me feel good about dealing with students from the Amazon	,806	
6.Me feel good about sharing with students from the Amazon	,807	
7. I feel good about sharing with Andean students.	,797	
8. I like to do work with students from the Amazon	,770	
9.Me like to do work with students from the mountains	,781	
10.Me interested in learning about the customs of other regions	,517	
11.Me like to hear different ways of speaking	,424	
12. I consider participating in the social activities of my community to be a necessity.		,605
13. I consider that participating in the educational activities of my school is a necessity.		,693
14. It is important to participate in activities of the institution aimed at the community.		,701
15. Much of my life is focused on community involvement		,588
16. I feel motivated to participate in the activities of my educational institution.		,624
17. I think that citizen participation makes a better world		,600
18. I feel that it is an obligation to participate in the work of my community.		,484
19.Es important to engage with the authorities to improve my community		,572
20.Es important to demand that the authorities take action to improve my educational institution		,608
21. It is important to demand that the authorities take actions for the improvement of the community.		,577
Extraction method: principal component analysis.		
Rotation method: Varimax with Kaiser normalization.		
to. The rotation has converged in 3 iterations.		

In relation to the results exhibited in the matrix of rotated components, values that exceed 0.3 for each component are evidenced. In this sense, the first component, referring to participation, is made up of 11 items, while the second component, related to coexistence, is made up of 10 items.

Reliability of instrument scales

The evaluation of the internal coherence of the instrument is based on the statistical coefficient Cronbach's alpha, calculated from the 21 items. In this context, the coefficient obtained is 0.920, which indicates a high reliability according to the interpretation table of the reliability coefficient as described in Hernández et al. (2014).

Table 4 Interpretation of the reliability coefficient



Note. Hernández et al. (2014)

Table 5 Reliability of the instrument of intercultural coexistence

Cronbach's Alfa	N of elements
,920	21

Confirmatory validity

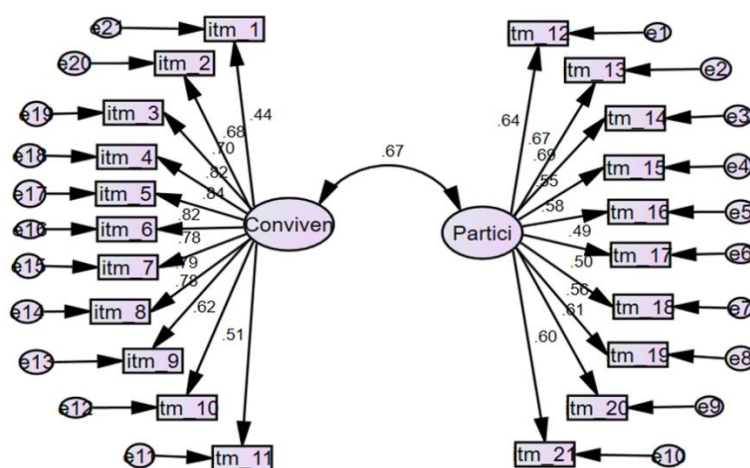


Figure 2 Generalized Structural Equation Models by Items

Note. Measurement model to determine limitations perceived by Regular Basic Education Secondary students of the UGEL 06-Ate.

$$\chi^2 = 872.571 \text{ df} = 350 \text{ p_valor} = 0.000$$

The relationship between the components of participation and coexistence, as well as the study variable, intercultural citizenship, presents a notable positive association, insofar as the values are in the range of $2df < X^2 < 3df$ ($700 < 872.571 < 1050$) and also meet the condition of $2 < X^2/df < 3$ ($2 < 2.49306 < 3$). In terms of the relationship between the variables under study, the dimension of coexistence and participation exhibit a direct and moderate connection of 0.67. In addition, it is highlighted that item 4 of the participation dimension, which expresses "I feel good when dealing with students from the Andean zone", presents the highest dependence with a value of 0.84, while the lowest relationship is observed in relation to item 1 "The cultural diversity of my country makes me feel proud" with 0.4. In relation to the participation variable, item 13 reveals a higher relationship with a value of 0.67, as opposed to item 17 that shows the lowest relationship with a value of 0.49.

The model has a good fit; since

Fit enhancement measures have values within the appropriate ranges based on the pre-set criteria, which are explained below. In relation to the normalized adjustment index NFI, a value of 0.979 is observed, which demonstrates a high level of proportional adjustment. In addition, the CFI Comparative Fit Index shows a value of 0.816, which indicates a good level of fit of the model, especially when it approaches 1.

Parsimony adjustment measures

It represents the level of fit achieved by each estimated coefficient or parameter and plays a key role in comparing between different alternative models. These indices include the parsimonious normalized adjustment index, also known as PNFI, with a value of 0.634, and the normalized adjustment index, NFI, with a value of 0.979. Likewise, there is the Akaike information criterion, abbreviated as "AIC", with a value of 1000,571. The square root of the mean square error (RMSEA) has a value of 0.102. In terms of an adjustment considered acceptable, a limit is set at 0.08. On the other hand, the goodness of fit index (GFI) exhibits a value of 0.861, which is close to the minimum threshold of 0.90 that is established as necessary to qualify the average model as acceptable.

DISCUSSION

The main purpose of this study was to establish the tests of content validity through expert judgments, validity based on internal structure through exploratory factor analysis (AFE) and the reliability of the intercultural citizenship questionnaire applied to high school students. With regard to content-based validity by expert judgment, the results obtained during the evaluation indicated high consistency, with a total validity index of 1.00. In relation to the validity based on the internal structure of the scale applied to students, an exploratory factor analysis (EFA) was performed. The results presented in the rotated component matrix show values greater than 0.3 for each component. Specifically, the first component, associated with participation, comprises 11 items, while the second component, linked to coexistence, is composed of 10 items.

According to the findings of the exploratory factor analysis, it is suggested, as a guideline for further research, the detailed observation of the factor loads of each item in relation to the corresponding factor. It is proposed to reorganize them according to the new groupings obtained, carry out additional measurements and finally perform a confirmatory factor analysis. On the other hand, the evaluation of the internal coherence of the instrument was carried out using Cronbach's alpha statistical coefficient, using the 21 items. In this aspect, a coefficient of 0.920 was obtained, which reflects a considerably high reliability. This indicates a high level of reliability both in the questionnaire as a whole and in each of its items.

This research is relevant due to its contribution of a valid and reliable questionnaire. In addition, its meaning transcends and can serve as a basis for future research that focuses on the variable of intercultural citizenship in secondary school students. It could also be used as a reference in longitudinal studies related to intercultural citizenship. In the same sense, it could contribute to the revision of the dimensions of participation and coexistence.

Finally, with respect to the possible restrictions identified in the research at a general level, it is important to note that although the instrument was validated in two stages, as a pilot study and a sample study, involving 100 students in the first case and 1,200 participants in the second, it is suggested to expand the analysis with larger samples in future research and explore the possibility of verifying validity and reliability tests in students University.

CONCLUSIONS

- The creation and validation of the questionnaire on intercultural citizenship was carried out using a sample of 1,200 secondary school students belonging to public educational institutions of the UGEL 06 in Lima.
- The questionnaire on intercultural citizenship was prepared based on the dimensions of participation and coexistence, based on the research of Palou, Rodríguez, and Vila (2014). This approach aimed to understand the perception of students between the ages of 11 and 17 with respect to intercultural citizenship.
- The validity of content was considered through the opinion of five experts in the field, resulting in an Aiken validity index of 1.00. Similarly, internal reliability was evaluated through Cronbach's alpha coefficient, which yielded a value of 0.920, indicating high reliability.

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