

# THE METAPHOR OF THE POLYHEDRON: WHAT DO TEACHERS THINK ABOUT THE QUALITY OF EDUCATION IN COLOMBIAN RURALITY?

Ruth Esperanza Quintero<sup>1</sup>, & Carola Hernández<sup>2</sup>

<sup>1</sup>Universidad Arturo Pratt, Iquique (Chile)/Universidad de Los Andes, Bogotá (Colombia)

<sup>2</sup>Facultad de Ingeniería, Universidad de Los Andes, Bogotá (Colombia)

## Abstract

Quality education must be understood as a fundamental right that enables many other globally agreed goals to be achieved. In Colombia, measuring quality education through students' performance in standardized tests is a tradition. However, both the association of quality education with students' performance in tests and its implementation in the Colombian rural context is problematic. Since, from the actor's perspective, in this case the teachers, quality education is much more than a grade. Quality education beliefs of Colombian teachers in the rural context is explored in this qualitative study. As per grounded theory logic, the way in which quality education dimensions are shaped from the teachers' beliefs is identified, their scope scaffolding and the strategies for the social construction of the concept.

**Keywords:** *Quality education, rural education, teachers' beliefs, Colombia.*

---

## 1. Introduction

Throughout history, education has been recognized as one of the factors that contribute the most to both the individuals and the people's development. To a certain extent, we have been involved in educational processes as part of society. In some cases, revolutions have been conceived to ensure that right for everyone. At first, being part of the system was enough. However, this perspective changed and now having access to education is not enough, it being of quality is required (UNESCO, 2005). In Colombia, efforts have been made to broaden the system's coverage by ensuring access to basic education for all children and young people. Nonetheless, the concern to work towards quality education has grown in recent decades, since the country's participation in international tests.

Hence, the institutionalization of the country's tradition of associating quality education with standardized test results. This practice is problematic because it denies the concept's polysemic nature that alludes to too many things at once. And it does not consider the diverse nature of the territory in which, despite institutional efforts, access to the system is not assured for some inhabitants of the dispersed rurality. In addition, it does not consider the rural students lower retention rate in school, the disadvantageous conditions of their schooling, nor the country's historical learning gap between rural and urban students (MEN, 2018; DANE, 2016; ICFES, 2022).

In this regard, an approach that broadens, from other perspectives, the quality education's viewpoint is required. Focusing exclusively on standardized tests results, which predominate in the country and provides elements that contribute to its social construction. Consequently, the complex issue of quality education in the Colombian rural context to know and analyze teachers' beliefs of public basic education in the country is addressed by this research. It is also sought, to determine the consensuses and tensions associated with the phenomenon and the implications at a systemic level, to establish categories conducting to quality education monitoring from this perspective.

Research interest in teachers' beliefs has been growing at a regional level. However, in Colombia there are few studies on the subject (García Gutiérrez, 2016). The theoretical gap is more significant in relation to the beliefs of rural teachers in the country's formal approach. This has prevented the field from growing and contributing to the compilation of empirical evidence that favors the formulation of strategies for analysis and systemic improvement of education in the sector.

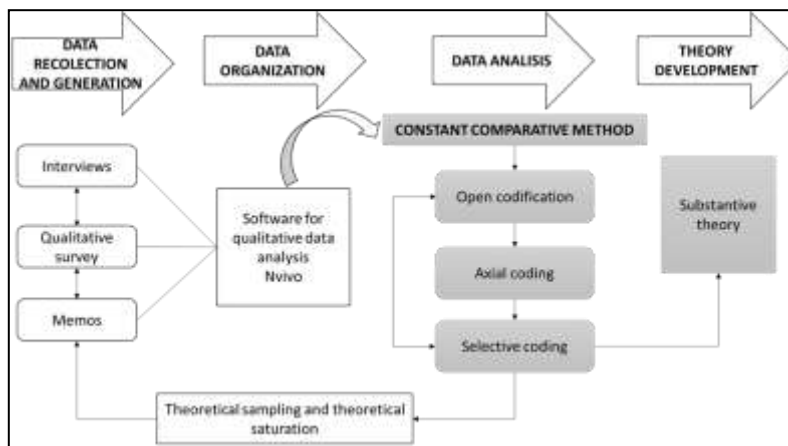
In this sense, the formulation of this study sought to analyze the beliefs about quality education on behalf of teachers of rural Colombia. In order to build a knowledge body that allows, by making explicit the rural teachers beliefs, the inclusion of their world view in concerted and inclusive public policies. This purpose has significant relevance because the convictions and beliefs of teachers affect their

way of processing educational demands. Teachers adopt convictions and beliefs about what it is to teach; about possibilities or factors that inhibit teaching; types of students and their abilities; didactic strategies; curricular contents and other related subjects. Furthermore, teacher’s beliefs are a powerful factor in determining the teacher’s behavior and their acceptance or rejection of innovative proposals (Vera Bachmann et al., 2012).

## 2. Methodology

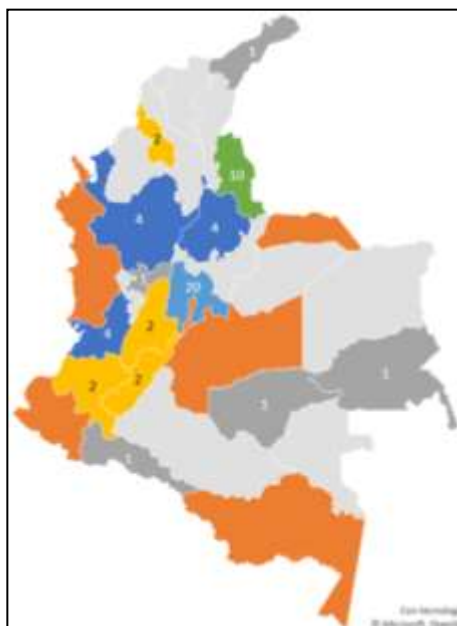
The phenomenon approach was based on the paradigm of qualitative research. And sought to make a comprehensive approach to the meaning of quality education in rural public educational institutions that teachers have. The main aspects that were considered for the methodological design, structured from grounded theory (Strauss & Corbin, 1994), and the principles that guided the analysis of the collected data are summarized in Figure 1.

Figure 1. Methodological Design of the Study.



A qualitative survey and in-depth semi-structured interviews with rural teachers from different regions of the country were used for the generation and collection of information, as specified in Figure 2: distribution of study participants in Colombia.

Figure 2. Distribution of study participants.



Note: the number above the geographical region indicates the number of participants in the sample collected.

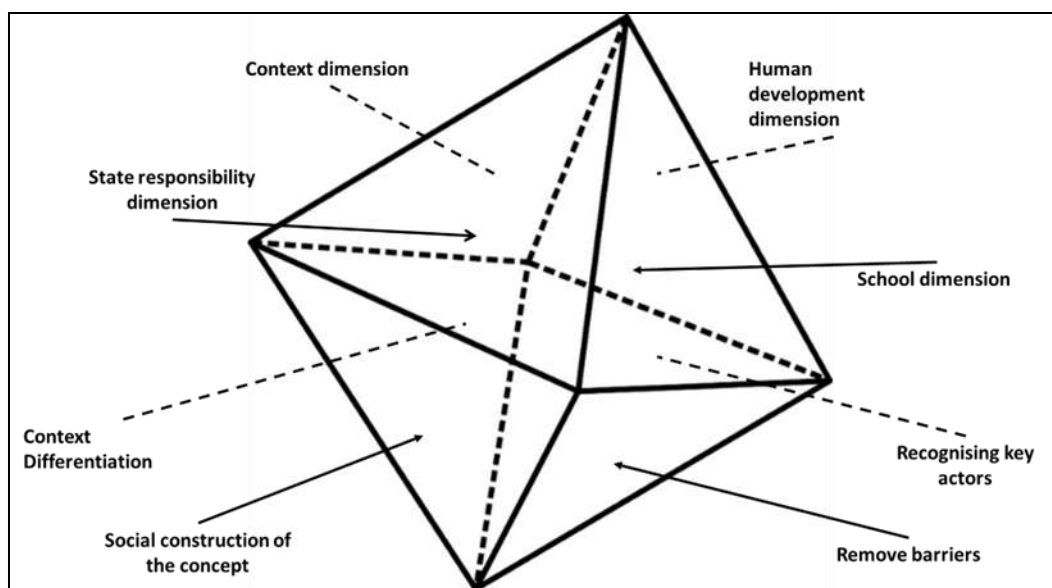
### 3. Results

From the data's inductive analysis, it is possible to conclude that rural teachers in Colombia believe that quality education is a multidimensional construct, based on the recognition of the rural context conditions, that requires the removal of barriers for its scope and must be socially constructed.

The belief held by Colombian teachers regarding quality education as a multidimensional construct confirms the empirical evidence provided by (UNESCO, 2005). In which it is appropriate to define it by considering the main elements that make up education systems, and how they interact. However, it is distant from the literature's proposal in which the dimensions are shaped to understand the quality of education.

The results of the research show that the beliefs held by rural teachers in Colombia are shaped in complex relationships which can be understood by using the polyhedron's metaphor. That is, the beliefs of rural teachers in Colombia can be understood if they are compared to a polyhedron in which its faces act as complex dimensions and their edges are common concepts that by complementing or contrasting are related (see figure 3). The four (4) upper faces correspond to the dimensions of quality education: human development, school, context, and state responsibility. And the four (4) lower faces correspond to the conditions for its materialization: to eliminate the barriers, differentiate the context, recognize the key actors, and build the concept through social participation.

Figure 3. Polyhedron of Educational Quality.



The four dimensions from the collected information, identified in an emergent way, evidence teachers' deep beliefs about their work. The student-centered human dimension development, in which describes the characteristics that rural education should have to contribute to the student's integral development. This dimension is aligned with the criterion of adaptability expressed by (Tomasevski, 2001), that is, that the educational system must adapt to the realities, expectations, interests, and possibilities of students.

Secondly, the school dimension, which centers on the school and corresponds to the conditions with which it must count for students to develop their potential. Bearing in mind that, from the beliefs of rural teachers, the school is conceived in relation to its impact on students and in context, the construction of this dimension approaches the criterion of curricular and pedagogical accessibility exposed by (Tomasevski, 2001). Since, it coincides with Colombian teachers in aspects related to curriculum development, evaluation strategies, and technologies used in teaching, among others.

The third dimension in which the context describes the conditions, characteristics and relations that must be generated from the school in relation to the context where it is. Finally, State responsibility dimension, which summarizes the main actions and processes that are the State's responsibility as administrator of the education system and guarantor of the right to education.

For teachers, these dimensions are developed in relation to conditions that operate as scaffolding and fulfill the function of being facilitators or barriers for quality education social construction. And that, in the polyhedron appear as the lower faces. These are: differentiate the context of rural education,

remove barriers to educational quality, recognize key actors and build the concept through social participation.

Regarding the context of rural education, teachers hold the belief that it is fundamental because it enables or prevents the attainment of quality education. According to the study findings, it is possible to affirm that the context is configured in a bidirectional relationship with the school and the teacher. Such is its relevance, from teachers' beliefs, that it can be considered as an actor of the quality education "perse". Now, as teachers describe it, at this historical moment, the Colombian rural context is configured as a factor that prevents quality education due to the state oblivion that characterizes it, the conditions of access to the territory, the perceived inequality, little or no family connection and the growing gap in relation to urban contexts.

Additionally, it is possible to conclude that teachers the Colombian rural context believe that quality education presents physical, human, and social factors that constitute obstacles to achieving it. These can be endogenous, directly related to the school and exogenous factors associated with external factors but directly influencing the educational process and the school. This belief is rooted in teachers and demonstrates a critical vision of quality education in rural schools. As teachers are conceived as critical actors that can contribute to the consolidation of quality education in relation to their community's social development, on one hand and with its pedagogical action on the other.

Since the study of teaching beliefs, this finding is very important because according to authors such as (Vera Bachmann et al., 2012) only reflection on the professional exercise itself allows the transformation of teaching in the classroom. This implies rethinking pedagogical practice, both in its meaning and in its effects. This could, in the long term, encourage all educational improvement initiatives aimed at ensuring the learning of children and young people in rural schools, reducing low achievement and dropout rates, that have characterized this context in our country for years.

On the other hand, Colombian rural teachers also believe that it is possible to achieve quality education if consensus is built through dialogue and community participation, the preservation of the country's cultural and ancestral wealth, the contextualization of the territory, the differential evaluation and the concerted public policies. The finding is important, while beliefs are a powerful factor in determining the teacher's behaviors and in their acceptance or rejection of innovative proposals (Vera Bachmann et al., p. 2)

#### **4. Discussion**

This vision of teachers presents a great fracture in relation to the official proposal of the focused public policy, almost exclusively, in standardized tests learning results measured and announces the state ignorance of its rural education duty and the teacher. In this sense, the beliefs of rural teachers in the country play an important role in the reformulation of plans, reforms, policies, or strategies focused on building quality education in the rural context at the country level. Considerably, as he describes it (Solis, 2015) "teachers elaborate their own reading of the proposals, of the educational reforms, from their beliefs that are built from their experiences as students and teachers. Ignoring teachers' ways of thinking could make it difficult to understand the proposals for change and limit their application, becoming a "self-sabotage" of any educational reform. On the contrary, delving into teaching beliefs will allow them to generate processes of reflection on their own pedagogical practice, their relationship with change and the consequent improvement of these" (p. 233).

In summary, popular wisdom says that when someone believes they can do something, they do it. Whereas, if you are convinced that it is not possible, no amount of effort will convince you otherwise. In this sense, there is a long way to go in the analysis of teachers' beliefs on quality education in the country and even more in the search for consensus that echo public policies focused on monitoring and supervises quality education. In this regard (Vera Bachmann et al 2012) clearly synthesizes the impact of teachers' beliefs in the education system, noting that "a professional does not change in a substantive way by only improving his knowledge and the quality of his know-how, if these two dimensions are not assumed and interpreted in a different professional "know-how", that gives meaning to the other two dimensions".

#### **5. Conclusion**

The way in which dimensions of quality education are constituted from rural Colombian teachers' beliefs can be presented through a polyhedron that considers the reality of the actors and their context. These ideas come into great tension with public policy that gives prevalence to results in standardized tests as a synonymous of quality. One cannot forget that standardized tests leave aside everything that is more difficult to measure: learn to think, learn to respect, learn to live with others, learn

to ask relevant questions and solve them, to determine what is important and valuable, to learn from the context. In conclusion, all that should remain at the heart of quality education.

### References

- DANE. (2022). *Educación Formal (EDUC) 2022* (Boletín técnico). Retrieved from <https://www.dane.gov.co/files/operaciones/EDUC/bol-EDUC-2022.pdf>
- García Gutiérrez, Á. A. (2016). *El pensamiento del profesor rural sobre la educación rural* (Master's thesis, Universidad Pedagógica Nacional, Bogotá, Colombia). Retrieved from <http://hdl.handle.net/20.500.12209/1079>
- ICFES. (2022). *Transformación por la calidad educativa del país* (Informe de gestión 2018-2022). [https://www2.icfes.gov.co/documents/39286/14380395/Informe+gesti%C3%B3n\\_2022.pdf/ecc4279e-3054-b753-d666-7c2a0657e983?version=1.0&t=1662649003918](https://www2.icfes.gov.co/documents/39286/14380395/Informe+gesti%C3%B3n_2022.pdf/ecc4279e-3054-b753-d666-7c2a0657e983?version=1.0&t=1662649003918)
- MEN. (2018, July 17). *Plan especial de educación rural hacia el desarrollo rural y la construcción de paz*. Ministerio De Educación Nacional. [https://www.mineducacion.gov.co/1759/articulos-385568\\_recurso\\_1.pdf](https://www.mineducacion.gov.co/1759/articulos-385568_recurso_1.pdf)
- Solis, C. (2015). Creencias sobre enseñanza y aprendizaje en docentes universitarios: Revisión de algunos estudios. *Propósitos y Representaciones*, 3(2), 227-260. [http:// dx.doi.org/10.20511/pyr2015.v3n2.83](http://dx.doi.org/10.20511/pyr2015.v3n2.83)
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology. *Handbook of qualitative research*, 17(1), 273-285.
- Tomasevski, K. (2004). Indicadores del derecho a la educación. *Revista Instituto Interamericano de Derechos Humanos*, 40, 341-388.
- UNESCO. (2005). *Informe de Seguimiento de la EPT en el mundo. Educación para todos: el imperativo de la calidad*.
- Vera Bachmann, D., Osses, S., & Schiefelbein Fuenzalida, E. (2012). Las Creencias de los profesores rurales: una tarea pendiente para la investigación educativa. *Estudios pedagógicos (Valdivia)*, 38(1), 297-310. <https://dx.doi.org/10.4067/S0718-07052012000100018>