

ACTION-RESEARCH IN THE VENEZUELAN CLASSROOMS

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This paper proposes an alternative framework for educational research in a critical and emancipator way in Venezuelan classrooms, which raises a number of elements that enable a different form of the relationship between theory and practice to emerge, in which knowledge is seen as a process marked by dialogue between equals. This way of conceiving research leads to the formation of democratic values and, consequently, a new conception of citizenship. We have developed participative action-research in our university, in which reflexivity is critical and essential, and which can be a support in the necessary process of transformation and emancipation as a legitimate concern of a society like that of Venezuela, struggling to be the protagonist of its own destiny.

RESEARCH IN TEACHER TRAINING

The teacher training prevailing in Latin America has been marked by changes originating from realities other than ours. Each new policy or project starts from scratch and the knowledge and experience gained in previous attempts made in each country or region is unknown. (Torres, 1996). In addition to the above, Messina (1999) in her research about the state of the art of teacher training, in the nineties, in Latin America shows as one of the most important findings the fact that the region remains under the aegis of knowledge transfer as a paradigm in teacher education, where research is not a structural element of pedagogical praxis. This traditional training school completes its philosophy by treating students and their teachers as beings incapable of building knowledge intersubjectively and transforming the social environment of education. The author also shows the "poor relation of training institutions with the surrounding sociocultural reality" (p.2).

Venezuela does not escape the reality of the region and this poses a challenge which is deeply rooted in the thinking of the Venezuelan educationalist Prieto Figueroa (1968), who, a few decades ago, stated the fundamental characteristics of a true educator to be:

- confidence in education as a force for human life transformation and as a tool for changing social structures;
- faith in the Future, which is projected towards his/her educational work;
- confidence in educational opportunities, the possibility of change being received by the education and the society where it operates, and
- ability to put all material and spiritual resources at the service of educational work.

These characteristics expressed by Prieto Figueroa concur with our development focus, the human being in different social contexts. He also asserts the human being's ability to transform the environment. Despite admitting the undeniable power of the

school as a transmitter of the prevailing ideology, the author believes in the potential of students to transform their social surrounding and to convert the school into an alternative place of creation.

From this way of thinking, the teacher is one who favors the construction of knowledge and takes an investigative and critical perspective on his training. The teacher education model that we propose meets “a complex perspective, critical and constructive...” which “...involves a strategic goal, an investigative conception of teachers' work” (Porlán, R., Martín del P., R. Martín, J., Rivero, A., 2001, p.15), where knowledge is not by any means neutral.

However, these approaches are far detached from Latin America reality, and research and knowledge accumulation have not converted into an improvement in the lives of its inhabitants. Here, knowledge has been appropriating by a minority, suiting it to their particular interests, and this has allowed the persistence of situations such as school dropout and exclusion, illiteracy, unemployment, asymmetric relations in the distribution of income, among many other problems we face.

This paper proposes a break with a conception of research that has addressed only the mere accumulation of knowledge. It posits a form of research linked to our educational practice, education governed by a profoundly human condition that includes a thorough understanding of the society in which we are engaged and able to build a critical consciousness, together with the understanding and interpretation situations, leading to the implementation of action plans that allow a real transformation of a reality that has been imposed by various mechanisms of power.

We agree with Freire (1990) that to "replace just a naive perception of reality by another criticism is not sufficient to liberate the oppressed". Rather, it is an inescapable duty of those who believe that a better world is possible to create the space needed to advance research that is committed to knowing and doing, with participation and action, and with the development of a critical consciousness that leads to transformation processes.

A CRITICAL AND EMANCIPATORY VISION OF RESEARCH

As teacher educators and researchers in the field of education, we consider it essential to orient readers to what we conceive as our educational practice, seen as a social fact determined over time. For this educational practice in a particular social context to reach its highest level and become dynamic and fruitful it should include research (Ruiz and Rojas Soriano, 2001). This indissoluble union of teaching and research is supported by Freire (1974) who assures us that "Education and research theme in the conception of problem-posing education, become moments of the same process" (pp. 131-132). Therefore, we conceive research coupled with educational practice, adding to this a valuable tool for reflection and action that will allow researchers to improve their teaching-educational intervention. This type of educational practice leads, as proposed by Ruiz and Rojas Soriano (2001), to "allow individuals to form critical of its historical reality and interested in the construction of knowledge through their

involvement in specific research" (p. 118). Thus, a first element that characterizes our idea of research will be its role to recreate and transform the teaching task.

A second consideration is the recognition of the concept of the theory-practice relationship, and the attempt to form a single dialogic unit, where the educational account of the theory is determined by how it relates to practice and the way this practice changes our theoretical references. We must become aware of the alleged dichotomy of theory versus practice; this is a false dilemma to be unveiled (Becerra and Moya, 2008a).

From the relationship of theory and practice, we consider a third element that relates to the fact that all research involves a knowing, a wanting to know about something, so it is necessary to make explicit our considerations of what is meant by a deep understanding of the subject is being addressed. In the first instance, we assume that knowing is always a process that does not end with the completion of an investigation. Successive approximations are shaping truths that can be temporary and shared. This leads to a demystification of knowledge from something static and unchanging, that is done, to a process, in transit, en route (Bigott, 1992).

Based on the foregoing, we understand knowledge as a dialectical process, where "my vision" does not prevail over the "vision of the other," where my beliefs are not more valid than those of others. This would lead to the formation of a fourth element. Therefore, dialogue is an essential tool of research, understood as something more than a simple conversation or a lively exchange of ideas. This dialogue involves the confrontation of different views around common interests, not with the intention to impose an idea or to consider others less successful, but with the intent to understand, to know and to advance the search for truth that is shared with others (Fierro, Fortoul and Rosas, 1999).

A fifth fundamental element of our research work is that the reflection and construction are not done alone; man is a social being, a historical being. For us in the ontological, epistemological and axiological dimensions that mark our work as researchers, the pursuit of knowledge is a social fact, which is nourished by my views and the visions of others. The construction of knowledge in our classrooms makes sense within its real possibility of social relevance.

A sixth element is the relationship, not always respected for methodological pluralism, between epistemology and methodology in the context of education; we seek to make it more constructive and critical.

We tried in our investigative journey to understand and explain how we gain knowledge of reality and to unravel the interpretations and understandings that make it up (Becerra, 2003, 2006).

Against this background we believe it is our duty to make explicit the rationale we sustain. We assume a perspective where, from the interaction of individuals with reality and the dialogue among themselves, meanings emerge. Understanding that

individuals can construct different understandings of the same reality, but if we promote dialogue and sincere arguments between them, they can construct knowledge in their relevant social interaction and their own reality, thus overcoming distorted individual understanding. Therefore, we move away from the false dichotomy of subject and object, as objectivity and subjectivity are, from our epistemological perspective, mutually constitutive.

A seventh element that guides our work is linked to the inalienable right to participate actively and consciously in the construction of a new citizenship. To increase such participation and that of our students as part of a research and education agenda committed to the development of man/woman as a social being (Becerra and Moya, 2008b). The scope of citizenship compels us to build an ideological framework in which a citizen should mature fully committed to their society. Thus, we oriented the research for the development of critical educators that, as Martin claims (1997, pp. 24-25):

- a. perceive “the interdependence of seemingly unrelated facts and phenomena”;
- b. expand their responsibilities and bear the consequences of their actions, showing a shift to perceive that “the effects it causes in others are not desirable”;
- c. argue for their views, not impose them;
- d. accept the reasoning of others and question their own;
- e. recognize Individuals as mediated by society, their training and community of practice;
- f. recognized themselves as assets that can influence the collective improvements;
- g. confront reality with what should be, realize the injustice of certain situations and put forward ways to overcome them;
- h. make use of dialectical thinking including the “consequences of an act or phenomenon, think in terms of possibilities of a sign (which generates benefits and to whom) and opposite (which causes damage and to whom)”;
- i. ask for arguments which are open to examination.

As the eighth and last but not least important element, according to the socio-critical paradigm research cannot be considered a neutral field, because we all, consciously or unconsciously, will choose the rules that guide it and no researcher escapes them. We share the very appropriate idea of the research process in education presented by Bigott in his book *Alternative Research and Popular Education in Latin America* (1992). This Venezuelan teacher conceives research as "...a process of knowledge production that is being socialized and produces cracks in the monopoly of knowledge" (p. 106).

The combination of these eight elements leads us to propose Emancipatory Action-Research as an alternative for the development of our educational practice, a choice that confronts entrenched conceptions of knowing and learning, struggling to break a

status quo that has masked realities and that has led to domestication processes. We are committed to research that interprets and comprehends facts, but dares to go beyond, that transcends the necessary understanding to progress towards the transformation of that reality.

PROCESSES OF EMANCIPATORY ACTION-RESEARCH

The process that characterizes action-research differs in several respects from other researches. We therefore considered as an option the sequence developed by Venezuelan educator Carlos Lanz (1994):

- a. Framing the issue: this concerns the approach to the participants through open discussions, conducting presentations on critical issues affecting the group or practice established.
- b. Object required: targets are designed and action plans are initially developed.
- c. Delineating the object of study: We answer questions like What, Who, Where and When and delimit social action, social subjects and the spatial and temporal dimension.
- d. Reconstruction of the object of study: We favor the synthesis and the placement of some aspects of the object and the measurement of knowledge are combined.
- e. Theoretical and methodological perspective: The theoretical and philosophical perspective are examined and discussed, outlining the premises of action-research and defining theoretical keys.
- f. Directionality of research: The proposed change from analysis and reflection of collective praxis is defined.
- g. Operational Design: We define techniques and instruments for collecting information that take into account the characteristics of the object of study. The information is classified in thematic units, such information is categorized and the theoretical development is done using a comprehensive-explicative approach.
- h. Conclusions and Results: The results are obtained by crossing different sources of information gathering and different actors.

A VENEZUELAN EXPERIENCE IN CLASSROOMS

In correspondence with all previous approaches are two experiences in the Universidad Pedagógica Experimental Libertador in Venezuela, where we tried to approach a reality that is constituted not only by external events but also by the variety of meanings, symbols and interpretations issued by the subject himself interacting with others.

In both studies we followed the guidelines of Action-Research as a methodological option. The categories for the analysis and interpretation of information emerged from a critical documentary study of in-depth interviews conducted with students and the information obtained from participant observation. Interpretation and organization

of the collected information, also called data encoding, was performed, following the approaches of Strauss and Corbin (2002, p. 13), through three types of procedures: a) conceptualizing and reducing data, b) developing categories based on their properties and c) correlating them. The process of Triangulation (Martinez, 2000) was used to compare the collected information, the verification of interpretations and the processing of the results outlined.

The first study was conducted with students from the programme in Integral Education (teachers from grades 1 to 6) and we proposed, through action-research, to build a participative methodology strategy for the course of Geometry. Flexible action plans were designed, which could be modified depending on the work done during the course.

As an example we show information classified under the category "Theoretical Assumptions". This was developed by students in small groups and concerned mathematical theorems and relations corresponding to the contents of units on Triangles and Quadrilaterals. Workshops were held to resolve problematized situations, to draw conclusions on each group and compare the arguments in plenary, where part of the work was done. At the end, written work was submitted, including the assumptions and justifications prepared to sustain each group's position. In reviewing this, perhaps the most interesting observation was the domain the students had for their justifications. The theoretical assumptions made in most cases were adequate, even though difficulties may have appeared in the problem solving process.

Some of the information provided by students during the course development are reported below.

a. Julmi a key informant, responding to the request for description of the process of theoretical assumptions in her group:

Julmi: At first it cost us a lot, but then little by little, we were integrating and taking postulates and theorems and it was something we didn't have to read and memorize, but we used many strategies to see if what we were telling each group would verify, trying everything, it cost us a little, but later we were seeing and checking.

b. Interview with another student of the course:

Interviewer: How was the process of developing the theoretical assumptions?

Betty: To develop the theoretical assumptions proved to be very difficult, but at the end we draw conclusions, the teacher asked us to clarify and so it went around and we realized that we had in the group.

Interviewer: How did you perceive the process?

Betty: At first I didn't believe it, then I reviewed my books and saw that really what we draw in class as the conclusion was what was written in the book.

Both students realize how difficult such strategies were for students and their complexity. The extracts also indicate the students' lack of experience in solving various problems and trying to draw conclusions common to a variety of them. Similarly, the student shows disbelief in her capacity, and that of her peers, to build knowledge.

The approaches outlined in this research show the reflection and transformation that take place when in the act of education the students are the true protagonists of their learning and become aware of their potential. This is not to leave students alone, but to prepare the educational ground so they are the protagonists and owners of knowledge, with the appropriate involvement and illumination, but not the imperative, of their teachers.

The second study was conducted with students from the programme of Teachers of Mathematics (high school teachers). The students, organized in small groups, should design projects related to high school content and having relevance for the local community or for Venezuelan society in general. Once the draft projects were designed, workshops were held in secondary schools near the university to present and exchange views with teachers of these institutions.

Below we illustrate part of one interview with student number 2:

Interviewer: What was the subject addressed in your project and how did you pick it?

Student 2: Water, for its importance, and also a participant of the group was in the "technical working groups of water" that were being organized at that time in the barrios of Caracas, when we began the project and he told us that there was something interesting to do with the water and from that we began, read the materials and made the choice.

Interviewer: How did your project relate to mathematics and society?

Student 2: We focus on the problems of drinking water, water for human consumption, in fact we worked with some chart from some neighborhoods, with a water consumption graphic in a residential area we could see at what time they consumed more water, if at noon, or night, ...at dawn it decreased, from that graph we constructed the function concept, worked what was the domain, range, slope of a line, we really worked much about it.

The responses of this student permit us to visualize one strategy that promotes the study of mathematics through current social problems, allowing students to be aware of the reality and to act on these problems. In this project the students found substantial differences between the thickness of the tubes that carry water to the different neighborhoods depending on the socioeconomic status of its inhabitants. These findings promoted discussion around the concept of equality that lay hidden in the distribution of the drinking water to the population.

Both studies are part of what we intended to develop knowledge, to socialize it and to make students aware of their reality and the role they should play in its transformation.

REFLECTIONS ON A PROCESS UNDER CONSTRUCTION

In the first place, we cannot forget that we live in a capitalist society and, although we think that the economic relations and social class dynamics can explain everything that is of particular importance to the investigation, we cannot ignore, as Apple claims, that "Its influence means to set aside some of the most insightful analytical tools that we possess" (1997, p. 177). Therefore, it is our duty to train future researchers within organizations that reproduce unequal class relations in our society and to prepare them to make more democratic and egalitarian institutions. In this approach the proposal of an emancipatory action-research has an exemplary role to play.

A research proposal such as the one we have been building, characterized by criticism, reflexivity and respect for man and woman, cannot and should not be forced. The sustainability of the strategy involves changes in attitude, performance and organization. Although these have started in some areas, the fact remains that the most profound changes take time to permeate organizations and break the rigid structures imposed from various fields of power.

This transformation occurs as a cluster of inescapable uncertainty and doubt. Nevertheless, we believe this is the way to constitute for ourselves a theoretical and methodological benchmark with real ethical and political aspirations within the framework of dialogical reasoning.

The characteristics of any emancipation-research-action process such as the one we propose cannot be developed in a hasty manner. Changes and transformations that begin to loom will go deeper and permeate the various organizations, in both formal and informal ways, to the extent where each student is ready to assimilate them and the rest of the group provides sufficient support and encouragement to move forward.

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