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### Experiences in Reflective Action Research with Practice Teachers

### Experiencias en investigación-acción-reflexión con educadores en proceso de formación

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## **Abstract**

This article presents processes and results of experiments conducted by a group of teachers and students in teacher-training programs at the University of Caldas (Colombia). The purpose of the article is to present the results of a consultancy process for educators in training during their practice teaching in public schools, using cycles of reflective action research. Participation, collaborative work, decision-making and critical reflection of the action are evidences that allow showing how a teacher in training learns to do research while learning to teach.

*Keywords:* Initial teacher-training, research/action, practice teaching, reflective action research.

## **Resumen**

Este artículo presenta procesos y resultados de las experiencias llevadas a cabo por un grupo de profesores y alumnos en programas de formación de educadores en la Universidad de Caldas (Colombia). El propósito del artículo consiste en presentar los resultados de un proceso de asesoría a educadores en proceso de formación durante sus prácticas en colegios oficiales, aplicando los ciclos de la investigación-acción-reflexión. La participación, el trabajo colaborativo, la toma de decisiones y la reflexión crítica de la acción son evidencias que permiten demostrar cómo un educador en proceso de formación aprende a investigar mientras está aprendiendo a enseñar.

*Palabras clave:* Formación inicial del profesorado, investigación-acción, práctica educativa.

## **Introduction**

In Colombia, two institutions are in charge of teacher-training: the Upper Normal School trains teachers who work in the basic elementary cycle; the university trains professionals who work in elementary education, junior high school and high school, and gives them degrees by areas of knowledge. These degrees include the BS in Social Science, BS in Natural Sciences, BA in Spanish, BA in Linguistics and Literature, BA in Modern Languages, BA in Music, BA in Preschool Education, BA in Special Education, and the BA in Physical Education and Recreation, among others. All teacher-training institutions complete the curriculum plan with a subject or a core called “educational practice”, “practice teaching” or “professional practice”, which must be done in schools which the universities or colleges select for this purpose. University students enrolled at this stage are called practice teachers. As a degree requirement, practice teachers must develop a project addressing an educational, pedagogical or didactic problem related to the specific discipline in which they are teaching.

Since 1994, when Law 115 was enacted, school reform has required every teacher to receive training in science, pedagogy, and ethics. Consequently, quality accreditation is regulated, and pedagogical research is established as the backbone of the curriculum plans. However, teacher-training has been the object

of criticism, prejudices and misunderstandings. One of the principal complaints is the lack of scientific strictness, lack of a relationship between theory and practice, and the inadequate applicability of research results to the school context. Furthermore, pedagogical research is isolated from the teaching of disciplines, and finally, alumnae are graduating without learning how to do research (Quintero and Munoz, 1999).

Based on our reflections as university professors, the authors of this paper want to introduce changes that will improve our program and contribute to training the future teachers who pass through our classrooms in how to carry out research. For twenty years we have been developing research courses, advising students, guiding projects and participating in curricular reform proposals. As a result, we have much material on theories and approaches to educational research. In our searches, we have found authors who propose methodologies for bettering the education and training of teachers. Schön (1994) contributes the model of reflective professionals; Lewin (1946) proposes the approach of problem-solving; Stenhouse (1998) and Elliott (1994) promote research as a basis for teaching; Kemmis and McTaggart (1988) support the reflexive spiral in action for the emancipation of learning communities; Giroux (1997) calls for the training of professionals as intellectuals; Senge *et al.* (2000) lead plans of action on the subject of schools where students learn to learn, and where teamwork, reflective openness and thinking in action are the basis for the success of every professional.

There are still more specific proposals about research on teaching (Wittrock, 1997) and the critical theory of teaching (Carr and Kemmis, 1988). In our Colombian context, we find works that call for putting pedagogical knowledge into writing, through the incorporation of comprehensive qualitative approaches in the classroom, without which the teacher would not be able to achieve a quality education (De Tezanos, 1998; Zuluaga, 1996).

Then there arises the question of how to do it. Is it possible to apply the cycles of action research to educational practices? How far does a practice teacher get when the adviser orients him/her and demands a more systematic work, based on principles of research? Is it possible to achieve that relationship between research knowledge, disciplinary knowledge, and pedagogical know-how?

### **Why action research in teacher training?**

Educational institutions, or fields of practice, are envisaged as scenarios in which processes of the appropriation of knowledge are confronted, and pedagogical knowledge is produced. In the comprehensive interpretative approach, the classroom, the school, the world itself are sources of research from which arise problems relating to the teaching, learning and training processes.

Reflective action research is ensconced in the phenomenological and epistemological paradigm, and takes input from the paradigm of change because it generates changes in the educational activity. "For the phenomenologist, human

conduct, what people say and do, is a product of how they define their world” (Taylor and Bogdan, 1996, p. 23).<sup>1</sup> During practice teaching, there are comprehensive and transforming moments. The teacher-in-training learns to understand the reality in which she<sup>2</sup> works so as to transform it.

Action research applied to education offers practical contributions for the development of the school, the classroom, the methods, the training of new professionals and, in general, the concerns of teachers, students, community and society. Different universities in the world are using the model to help the actors to be more effective because they can initiate and control a process of self-improvement.

Stenhouse (1998) and Elliott (1994) report that action research helps professionals to solve their own problems and to improve their practice. The practical professional, reflecting on what she does, improves her action and produces knowledge (Schön,1992). Action research is comprehensive, collaborative and participatory self-criticism; it creates communities, beginning with small groups of participants, but is then extended as interest in improving operations increases.

Action research is the reflection process by which, in a particular problem area where there is a desire to improve practice or personal understanding, the practicing professional conducts a study—first, to define clearly the problem; second, to specify an action plan [...] Then an assessment is undertaken to verify and establish the effectiveness of the action taken. Finally, the participants reflect, explain the progress and communicate these results to the research-action community. Action research is a auto-reflective, scientific study by professionals to improve practice (McKernan, 1999, p. 25).

Action research is:

A form of collective, introspective inquiry undertaken by participants in social situations with the aim of improving the rationality and justice of their social or educational practices as well as their understanding of these practices and the situations in which they took place (Kemmis and McTaggart, 1988 , p. 9).

Given the innate characteristics of school settings, the teacher finds in them a suitable space in which to identify issues and immediate problems, understand them, recreate and transform them. School life facilitates the development of investigative abilities to identify problems, observe, record, interpret data, reflect, experiment, plan, evaluate and write.

Educational practice is an object of study well suited to the characteristics of qualitative research (Muñoz, Quintero and Munevar, 2001, p. 32), since it merges certain conditions: the researcher stays in the field, makes observations as a participant, prepares field diaries and records of his observations, interacts with people and acts in a natural context; in constructing the object of study, the researcher classifies information and gives meaning to places, times and actions in the research process itself.

As for the educator, when located in an institution, she finds conditions that allow her to develop research processes. She is in constant contact with real groups of students, parents, teachers and community. She lives with them, teaches classes; participates in social events, recreation and culture; notes different times and places; take notes; describes and interprets her world. The teacher's problems emerge from her own practice, and change as a result of the observations and reflections. The classroom then becomes a setting conducive to being understood and transformed.

### **Work Methodology**

The process of investigating the experience was based on the model of action research (Lewin, 1946, Kemmis and McTaggart, 1988) and on the principles of the comprehensive qualitative paradigm (Taylor and Bogdan, 1996). The spiral followed four stages: planning, acting, observation and reflection.

The experiment was conducted during the last two semesters of the undergraduate curriculum plan offered by the University of Caldas in Manizales. The experiment began in 1999, at the same time we decided to improve our own work as advisors, as well that of our practice teachers, in a process inherent in practice teaching itself. The results presented in this article are a foretaste of what has been systematized to date.

The participants are practice teachers of both sexes. They average 20 years of age, and are working with groups averaging 45 students, in public schools. Under the rules of the program, each advisor is assigned groups of five or six practice teachers. The time spent is counted as academic work, and averages eight hours per week.

Counseling is intended as a support process for improving the capabilities of the new teacher during his practice period. The practice includes visits to schools, study and group advisory meetings, both for developing educational projects and for studying learning processes in a particular area of knowledge (the one in which where he will receive his degree). The advisors prepare a plan that includes workshops, a bi-weekly seminar, work guidebooks and evaluation reports. This is the opportunity to apply the cycles of the reflective spiral in the action, i.e., the conditions of practice itself allow the advisor to teach, and the practice teacher to learn how to do research.

The basic research tools are those needed by the practice teacher according to the problems he encounters. The first is the field journal, in which to describe what is going on, write interpretations and reflections, and to formulate points of intervention. The practice teacher also keeps records of ethnographic observations, open interviews and transcripts of classes.

## Principal findings

**a) Action research is inherent in teaching and learning.** The practice teachers' results constitute the best evidence with which to corroborate the effects of counseling. Today, counseling/support has changed the way of helping the practice teacher to identify problems and solve them, plan lessons, use teaching resources that encourage learning, manage discipline problems, control groups, develop dynamic and creative activities, and understand the institution as a manager of development and social change. This is a task that has always existed, but in the past, there have been no ongoing projects to provide evidence for results and progress.

When the practice teacher met with his advisor to present the weekly progress report, he outlined a number of concerns. All these required research processes that the practice teacher could not develop without the advisor's help. The advisor asked the practice teacher to record his concerns in the diary. The practice teachers said:

"Well, Professor, here are the lesson plans and reports. In general, it went well, but I am unable to maintain discipline. Although I finished the guide, not everything was good. At the end of class, a student of 7C hit two children. And this time he was expelled from school for two days" (oral report to the advisor, May 5, 2000).

"Three students wouldn't let me give the class. I wrote them down in the rulebook, and that was worse. I do not know if I should put them out of the class, or send them to the principal. I have reprimanded them many times, but they don't listen. It makes me want to cry. I want to change groups" (Practice teacher's field journal, May 15, 2000).

"The best students are discouraged because other classmates will not let them work. Many students show marked aggression. They hit each other during games. They kick, they push. One day a boy even hit a girl in the face in the middle of class" (Practice teacher's field journal, May 15, 2000).

"Group work was a disaster. Two boys started fighting—I do not know why. But it was horrible. I had to stop the activity, and I did not know what to do. Although I try to form groups, mixing those of high performance with those who always are slow, they do not obey me. They want to work with their friends, and they do not like the teacher to make them work with others" (Class Transcript, June 6, 2000).

"I began the class with a lot of enthusiasm. I always care about bringing them posters, songs, games, cards, authentic materials and I prepare the plan by following the directions in the methodology course. I don't know what happens. Every week is a fight with this group. There is something the matter with them—I don't know what. I think we have to put them to work all the time and keep them busy. I want you to guide me so I can improve discipline and attract the attention of all the students" (Practice teacher's field journal, July 16, 2000).

The preceding cases indicate that the biggest problem of teachers in training was not the preparation of their classes, nor their attitude or motivation, but the control of the group due to the aggressiveness, unwillingness to form groups, lack of attention, and the disorder generated in classrooms of 45 to 50 students. Therefore, scholastic achievement was not as expected.

Once research processes were incorporated, our advice was different. First, it was necessary to *understand* and then transform; that is, study the situation in depth. We asked the practice teacher to design his diary in three sections: descriptive, interpretive/reflective, and actions to improve. After each class, he described what happened from beginning to end. Then he wrote a paragraph or two of reflections and evaluations, and in the third section, propose alternatives for the following day: what he could do, what would happen if he tried this or that strategy. Then, he prepared the action plan, after which he again observed, described, interpreted, reflected, recorded, and so on.

In principle, not all practice teachers were convinced of this methodology. There was uncertainty, disbelief and resistance because of work overload. Keeping a journal involves effort, work, discipline and—why not—a change in study habits. But at the end of the semester, the results were highly positive. Usually only two or three were at risk, and from their experience, fellow unbelievers were encouraged and followed the plan. So far, no practice teacher has failed with this methodology. Every one, at his own pace and according to his own particular conditions, is improving.

After going through the first few cycles, the advisors noted that gradually the educators in training were finding their work fun and exciting, were enthusiastic, proposed solutions and observed their effects. Also, they appreciated the impact and effects of their actions; paused at key issues and discussed their importance; discovered patterns and trends. In the evaluation reports, extracted from their journals, one practice teacher wrote: “The students who achieve most are the most undisciplined, and those that do more assignments are the ones who participate more, but at the same time, are the least socialized.”

After successive cycles, practice teachers emphasize the value of research as a constituent of educational practice. “At first, when the advisor interviews you, you say, ‘My students are tired, unruly, aggressive; my materials do not work even though they are well prepared; that group is horrible,’ ‘I don’t know how to begin.’” Later, in mid-semester, they begin to investigate why they acted that way, and compare their situation with what is happening in other classes, in other circumstances, with other teachers—what other factors affect the class and what alternatives can be applied. All this leads to identifying causes and effects, to establishing relationships, to predicting scenarios, to improving their observational capabilities, to designing systematic studies such as tracking cases, the development of structured interviews, recording ideas, critiquing and writing. Consequently, the advisory processes will also be reoriented to maintain the practice teacher in a climate that has research incorporated into her practice.

In the process of improving teaching, practice teachers turn their attention to problems that demand urgent solution in the classroom. A minimum list relates to such things as discipline, aggressiveness, play, group control, effectiveness of planning, time management, discourse management, pedagogical interactions, resource use, acceptance by the group, evaluation, application of updated methods of teaching, listening to students' complaints and grievances, and distribution and effects of the space.

Practice teachers, counseled through research processes, are always looking to increase productivity and strengthen values education in their students. The difficulty is not to prepare a lesson plan, because they know several ways to do it and are very creative in finding materials, designing guides, creating games, inventing group dynamics, planning field trips. To achieve this, they must, above all, diminish the aggressive behavior and lack of discipline that characterizes elementary-education institutions, as well as create a more open, more pleasant and more considerate environment to promote learning. Reflective action research becomes a necessary, essential component for continuous improvement and production of knowledge based on experience. "Action research has helped me understand my action as a teacher and find ways to solve my own problems" (Practice teacher's field journal, July 27, 2000), is a sentiment frequently voiced by participants.

In her journals, one of the participants reflected on her growing awareness, and emphasized that research is not separate from teaching and learning.

"As I learned more, I was seeing improvements, I began to see that what I was doing was research—which is no big deal. I feel that I investigate while I teach, while I plan, while I see how my students progress, while I evaluate, while I write what is happening to me" (Practice teacher's field journal, October 16, 2000).

At first, it was more skepticism than enthusiasm; now it is the reverse. "Thanks to the advisors who have taught me to understand the concepts of action research and to implement them" (Practice teacher's field journal, October 17, 2000).

During the first weeks of practice, the reflections in her diaries indicated demotivation. The bad temper of the practice teachers or the gloom at not finding immediate solutions to problems in the classroom were constant: "It's horrible—I do not want to go back to that group!" "It makes me want to scream and run out of the room!" "I would like to strangle them!"

"I feel a little sad and very tired because I just finished my class in fourth grade. I was a slightly furious because some children did not pay any attention to me, and during the whole time I was repeating over and over, "Quiet, please". Some of them paid no attention me even after all that" (Practice teacher's field journal, March 30, 2000).



In the final records, the language of practice teachers changed. They related more to the results of their tests and experiments. In the final diaries we read success indicators like the following:

“I just got out of class. Today I feel very happy. Then it is easier to prepare play activities to give them the opportunity to speak and to have the opportunity to improve their participation. I know and am conscious of the difficulty of getting the whole group to talk, but somehow, I have to do it” (Practice teacher’s field journal, June 20, 2001).

“Being able to analyze my class carefully has helped me tremendously. Now I see my work through different eyes. I could not solve every one of the problems, but when my partner something similar situation to me, I got enthused” (Practice teacher’s field journal, June 20, 2001).

This comment expresses the meaning of action research in language education (Olson, 1991) in which teachers are researchers who study real problems, alone or in teams.

**b) Educational practice is a permanent space for reflection, interpretation, comment, criticism and writing.** During the training process in action research, lines like these come out in the journals of the practice teachers, guided and encouraged by us, the advisors: “I am worried that...What would happen if...once I tried it, I noticed that...I am curious to know how to answer...I have changed the way...I thought of a different way to...I believed that...but now I understand that...I did it—now I know why...”. These phrases indicate an active seeking for ways to improve the action. As future reflective professionals, they express questions about what they do, see the change in their own behavior, and appreciate the results.

What do the participants wonder about? At the beginning of the process they are more dependent and fearful: “How do I plan? Could it be that the Professor approves of it? “ As they go on, they are autonomous, more observant and more reflective: “I realized that when they work in groups of four they do better than when they work in pairs or larger groups” (Practice teacher’s field journal, March 22, 2000). “Students are bored and tired because they just had an exam in the class before” (Practice teacher’s field journal, March 22, 2000). At first they only mention the anomaly; later they wonder why, look for reasons and think of a strategy to keep it from happening again, or to maintain what was good. In the journals we read reflections showing tendencies to make changes in spaces, in methods, in the language, in speeches. “What happens if I seat a good student with a poor one, or a girl with a boy?” “Why do they like working with guides in the classroom better than working in teams outside class?” (Practice teacher’s field journal, 8 August, 2001). It became habitual to look at these questions so as to discover what works best in each situation.

There are many pages in the practice teachers' journals, which in the university we have called a "memoir of pedagogical knowledge"; they are full of anecdotes, experiences, episodes, good and bad answers about the training processes, well-understood topics; misunderstood topics; students' behavior; comments about the classroom; learning and teaching. Not everything is in the story and the description. These are the beginning, but then come the questions, the points of intervention, the rehearsal, the evaluation and the critique.

The practice teachers show an interest in developing their writing skills as they identify their own problems. The texts written in the journals are based on their records, field notes, reflections, observations and evaluation reports. The participants understand that writing helps them modify their actions and get *better*. The first time one practice teacher identified a point of intervention for improving and changing his immediate action, was when he wrote:

"I do not stop to say, 'They are undisciplined', 'that room is horrible', 'I will ask for a different group'. After going over my field notes and looking at my transcripts, I have reached more insightful conclusions, and have learned to look for meanings, causes and consequences for the behaviors of my students. I focus on the situations I want to improve. Why are they undisciplined? Why is it that teachers do not want to teach in 7B? What if I ask the students to help me develop the materials I use in class? Why does the same plan not work the same way in two groups? It has happened that a lesson plan works well in group A, but is a disaster in group B" (Practice teacher's field journal, September 12, 2001)

Based on these arguments, we have induced practice teachers to gather evidence from the circumstances surrounding their work. At first, they are not conscious of details, for example, the fact that while one student goes to the board to correct an exercise, the rest are distracted doing other things. After analyzing the records in the journals, they have more confidence about how to find a way to correct the exercises.

One day, visiting the class of a practice teacher, we noted that only five students were actively involved. The other forty spent much of the class doing homework for other subjects, or making scratches on their notebooks, or bothering the classmates around them. As advisors, we felt that telling the practice teacher this in a vertical way would not have the same effect as if he discovered it in his records. We started looking at the transcript, we quantified the units of speech, we chose group participation as the focus. We asked questions based on presuppositions: How is the group's participation in my class? Who participates? Those who participate most, where are they seated? Those who do not participate, what other activities are they doing? Why doesn't everyone participate? What makes them participate, what prevents them from participating? How can we improve participation?

Then we looked at some data from the observation records. We begin by describing how many rows there were; how the students were distributed: in lines,

circles, one behind the other, in pairs, by free groups, distribution assigned by the teacher; how many times each student speaks; those who do not talk about the class theme, what else do they talk about? Etcetera. Indeed, the practice teacher said, “Yikes! Only five were active participating. From now on I’m going to see if they are the same ones all the time, and how they participate in their other classes” (Oral commentary by a practice teacher upon analyzing a class-observation register).

The point of intervention emerged spontaneously, and he recorded it in his diary: “Tomorrow I will get at least twenty of those who are not participating to get up the nerve to do it, and gradually I will work to encourage the rest to get up the nerve (Practice teacher’s field journal, 12 September, 2001). The advisor used these advances to suggest to the practice teacher that in that week’s diary he keep notes about this point of intervention.

At first, one practice teacher interested in improving the participation of the group tried asking them direct questions, but this did not work well. Then she tried seating a boy with a girl, but found that the boys liked working with the girls, but the girls did not like working with the boys. The teacher kept on experimenting and trying until she discovered that some did not participate because they had not done their homework. Others, although they wanted to talk, did not, because they were afraid to speak in public. Others did not participate because they simply did not understand. Others said they did not because in every course there were students who always raised their hands, even when they did not know the answer, and it was to them that the teacher talked; then, “Let the teacher have class with them, the rest of us don’t matter”.

In describing and interpreting classes, there were found more and more focuses of interest by which to change actions. Everything from counting, lists, talks, questions, comments, reflections and ongoing experiments, aided by the advisor. “It’s like a chain—one discovery leads to another.” Similarly, there emerged other factors inherent in the class climate, such as the amount of time spent talking; how much silence or confusion existed; what type of questions were asked and answered; the amount of praise, reward or motivation—and whether they went on investigating, kept discovering. The research encouraged them to look more at what was going on around them, and the advisor encouraged them to improve on traditional teaching practice. That way, it was not an imposed process of investigation, but a process that came from the practice teacher herself, guided by the advisor.

## **Conclusions**

The design and curricular structure of the teacher-training programs permit and demand research processes. The greatest achievement of our experience is to ensure the development of an action research project within the educational

practice. That is, we have qualified our advisory role through research processes, so that the practice teacher may learn to investigate while learning to teach.

Reflective action research helps to recognize the significance of the teaching profession, to transform the practice itself, and to make the teacher's thought and action more consistent. Research and practice teaching are mutually enriching. Through the practice teachers' production, as registered in their field journals, the advisors discovered that in educational action there is the spiraling cycle of planning, action, reflection, and evaluation of the results of the action. The changes reverberate in the language, actions, attitude, interactions, the handling of classroom problems, in such a way as to promote learning, in the concept of a reflective and transforming educator.

By applying the cycle of action research in practice teaching, one learns to reflect, observe, take notes, ask questions, infer and set goals for oneself so as to do better. By recording in the journal what happens in the classroom, advisors and practice teachers are leaving a memoir of knowledge, in this case, pedagogical knowledge, because they are conscious of the processes of teaching, learning and teacher-training.

During the experience which advisors and practice teachers live together, fears, emotions, successes and questions are shared. The action of the practice teacher goes beyond planning a class, developing it on a blackboard, designing a project, tabulating data, concluding, evaluating and communicating results. The advisor facilitates the practice teacher's learning to investigate while learning to teach.

While advisors teach and practice teachers learn, problems in the classroom are experienced, and ways to resolve them are sought; ways of teaching and learning are documented; teaching and learning processes are investigated by observation, description and interpretation. Decisions are made thoughtfully, and changes and improvements are proposed. When a problem has been identified, then it becomes a point of intervention, and alternative solutions are tested with immediate effect.

The dynamics of institutional life are a source of problems. One learns to "understand the school" under the pretext of incorporating some elements of the interpretive paradigm: to describe recreation; describe a typical school day; decode symbols; write stories; narrate things like conflict between students, learning styles, a cultural celebration, a parents' meeting, colleagues' attitudes, an pedagogical work day—whatever—to grasp, understand, and dare to transform school life.

In this paper we have taken a tour of the route by which a practice teacher's route learns to investigate, oriented by a process of consultancy using the method of action research.

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<sup>1</sup> Translator's note: Some texts quoted in this work were available to the original authors of this work only in their Spanish translations. Because the original texts were unavailable to the translator, we have been obliged to use the technique of back-translation, for which we most humbly apologize.

<sup>2</sup> Since the advent of the feminist movement, the former English usage of the masculine pronoun to denote both genders is considered sexist, and has been replaced by things like *s/he* and *his/her*. This is not a problem in documents where the situation occurs once or twice; however, in papers such as this, where it can occur more than once in a single sentence, it can begin become quite awkward. For this reason, we shall at times use the feminine pronoun, and at others, the masculine.