

# LAYING BRIDGES BETWEEN UNIVERSITIES AND ELEMENTARY SCHOOLS THROUGH RESEARCH

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## **RESUMO**

*O objetivo deste trabalho é discutir a relação entre a pesquisa e o professor de educação básica a partir de dados de um programa integrado de investigação sobre o tema. A articulação entre ensino e pesquisa na formação e no trabalho do professor da educação básica é algo que há algum tempo tem sido abordado na literatura acadêmica, mas pouco se sabe sobre o seu alcance entre os professores desse nível de ensino. Neste texto apresentamos a proposta e alguns dos resultados de nosso estudo, considerando as três etapas que o constituem: 1. a visão de professores da educação básica sobre a pesquisa e sua preparação para exercê-la, bem como as condições e os estímulos para a sua realização; 2. a opinião de professores da universidade responsáveis pela formação desses professores sobre a importância, a necessidade e a viabilidade da pesquisa, tanto na formação quanto no trabalho do futuro professor, abordando, ainda, os dispositivos empregados pela sua universidade na formação dos licenciandos como futuros pesquisadores; 3. a proposta de investigar a posição dos que decidem sobre pesquisa, uma etapa do estudo em pleno andamento, buscando divisar os elementos levados em conta por essas pessoas. Como conclusão, são*

*apresentadas algumas reflexões acerca da situação atual da pesquisa em educação e o desafio da formação de professores, evidenciando a importância de aproximar a pesquisa em educação das duas realidades que lhe dizem respeito: a da universidade e a da escola de educação básica.*

*EDUCAÇÃO BÁSICA – ENSINO SUPERIOR – PESQUISA EDUCACIONAL – PROFESSOR*

### **ABSTRACT**

*BRIDGING THE GAP BETWEEN UNIVERSITY AND ELEMENTARY SCHOOL INSTITUTIONS THROUGH RESEARCH. The aim of this paper is to discuss the relationship between research and the elementary school teacher, based on data from an integrated research project on this theme. The articulation between teaching and research in elementary school teacher training and practice is something that has been widely discussed in the academic literature. However, very little is actually known about its effectiveness and power among teachers on this level. In this text we present the proposal and some of the results of our study, considering the three stages that constitute the project: 1. the view elementary school teachers have about research and the training they received to develop it, as well as the conditions and the stimulus for it to take place in their teaching practice; 2. the opinion of university teachers responsible for their training, focusing on the importance, the need and the viability of doing research not only in teacher training, but also in teaching practice including the means employed by their university in the training of undergraduates as future researchers; 3. the position adopted by those who decide about research itself, a stage of the study which is now in progress, attempting to detect the elements which are taken into consideration by these people. We conclude with some reflections on the present status of research in education and the challenge of training teachers, highlighting the importance of approaching research in education based on the two contexts that concern it: the university and elementary school institutions.*

*BASIC EDUCATION – HIGHER EDUCATION – EDUCATIONAL RESEARCH – TEACHER*

The concept of teachers-as-researchers, the possibility of teachers developing the practice of research in teaching, and the training of teachers for this practice are issues that are widely discussed today by the academic community, alongside and sometimes together with the idea of the “reflective teacher” disseminated by the work of Schön (1983), and the idea of teacher knowledge introduced to us in an article by Tardif, Lessard, and Lahaye (1991). Debates about these and other related ideas have become increasingly fierce, and they are of special interest to us because we are carrying out a study on them. Before we present the progress of our study, we would like to comment on some critical aspects that are particularly instigating to us. They were raised in an article by Duarte (2003) and can be summarized in the following text:

Teacher education in universities will be of little or no use if the contents learned were massively reduced to the exercise of reflection on professional knowledge of a tacit, personal, private or subjective nature. Advocating the need for teacher educators to be researchers in education will be of little or no use if educational research surrenders to “withdrawal from theory”. (Duarte, 2003, p. 620)

The first aspect refers to the risk the education of future teachers runs if the courses offered predominantly focus on the exercise of reflection of a personal and private nature on the students’ – future teachers – own practice, in a subjective effort that is isolated from the context in which such practice will take place. We have already had the opportunity to comment on (Lüdke, 2001, 2001a, 2001b) the potential effects of a far too wide concept of reflection as proposed by Schön (1983) in his effort to neutralize the increasing prevalence of technical rationality on understanding the work and the education of professionals. Although his research published in 1983 did not focus on teachers, it had enormous repercussion in the area of education, and later received special attention from the author (Schön, 1992). The idea of reflection on action, be it during the event or after its conclusion, representing an effort to encompass not only the completed action, but also the reflection about it, is an explicit

recognition of what teachers already do whenever they ask themselves why something has gone right or wrong in their teaching practice. The novelty (proposed by Schön) is to sound the alarm about the interest in posing this question during the development of the work, and certainly also after its end. This ensures that the teacher will follow up the clue to the puzzle that he/she will solve through his/her work, and that some scholars try to picture and understand by means of surveys in the field of ergonomics (Durand, apud Therrien, Loiola, 2001). There is no doubt about the interest in pointing out the importance of reflection as a fundamental and integral part of the teacher's job. However, making reflection the central idea in the courses for future teachers is a risk to be promptly avoided so that other equally important aspects are not sacrificed.

A risk that is perhaps closer to teachers' action is the conversion of reflection, a natural component of their work, into an effort centered exclusively on their own individual experience isolated from the conditions and factors that are part of the situation in which they and their students are involved. Not only the immediate situation that surrounds them at school, but, above all, the general situation in their communities, regions, countries, and time. And in order to respond to this, teacher education must include the bases offered by the effort of theoretical construction carried out by areas that study Education, such as Sociology, Psychology, History, Anthropology, and especially Philosophy. By doing so, and armed with such resources, future teachers will be able to face challenges resulting from their incumbency or mandate as an heir, a mediator, an interpreter or critic as Mellouki and Gauthier (2004) put it. And here we touch another sensitive critical aspect mentioned in the text above: the "withdrawal from theory" by the research in education. In this case, there is a serious risk that has been haunting our academic output in education. We are not dealing with a problem that has been recently observed, since reflection became part of the discussion on teacher education. It is related to far more basic factors, among them the very nature of Education, which has no clear definition of its epistemological framework, a field where the contributions of various disciplines meet. This issue is so serious that it has led experienced researchers who have deep

knowledge of the Brazilian educational reality to state that teachers could only become researchers if they specialized in one of the sciences connected with Education. In a concise but very incisive article, Isambert-Jamati (1992) points out the importance for researchers in education to have solid knowledge of one of the scientific disciplines that converge with education to support their theoretical analyses.

Another aspect that increases this risk is related to the great development of a qualitative approach in educational research. Study objects in the area of education are usually quite complex and not satisfactorily contemplated by quantitative methodologies. Qualitative approaches have greatly contributed for a better understanding of educational problems even though there have been excesses in their application. Beginners in research felt particularly attracted by the apparent simplicity of the methodological work based on qualitative research, partly because some researchers are not aware of the resources offered by quantitative methods which are irreplaceable in solving given research problems. We have currently recognized and tried to correct the problems caused by this lack of information, seeking to offer training on quantitative research techniques and concepts in our education undergraduate and graduate (MS) programs. But we can still list a large number of research projects that are limited to transcribing data obtained in interviews or reports by teachers about their teaching careers or life stories or through observation of their work in the classroom, without reviewing these data in the light of theories that may help clarifying the problem investigated, encouraging researchers to look for their own solutions for each case based on resources available in the many theoretical analyses in the area, as well as those researchers themselves will propose. To that end it is necessary, however, that researchers get support from clues supplied by scholars who have already studied the same problems and that spur the creativity of new researchers. Theories work as impulses that trigger new perceptions to be exploited and expanded by the talents of researchers.

The overvaluation of the aspects connected with teachers' experience, work, and practice, to some extent favored by the development of the ideas of reflection and teacher knowledge, cannot be a hindrance or even a difficulty to the

indispensable use of the theoretical component in every piece of research. One can understand that there has been an apparent unbalance in the arguments about these themes, in an effort to restore the due importance of practice, which some have considered to be underestimated in relation to theory in the discussions about teacher education and practice. We understand, however, that such an effort should not justify or even mean any reversal in the role played by theory in the research scene; it only claims reestablishment of its partnership with the role played by practice. In this sense, we insist on the importance of teachers' theoretical education, both in the so-called pre-service period as well as in continued education throughout their careers. A balance – not yet found in our current courses – would ensure future teachers' mastering of key concepts within comprehensive theoretical frameworks. This would help them solve problems of our educational reality that might come up in the practical side of their education. Teachers would finish this preparatory stage with the indispensable resources to start their teaching career and their professional development, including as researchers.

Our teacher education programs have suffered the consequences of an inborn defect that dates back to constitution: separation of theory and practice in the educational effort, theory always coming first and being followed by practice, which is developed by means of internships of insufficient duration, and above all poorly planned. It will not be possible for us to discuss this topic any longer now; it requires, however, urgent and careful attention because its consequences affect several aspects, including building teacher knowledge, a topic intensely debated by authors concerned with the inadequate hierarchization of theory and practice. Overcoming this hierarchy may contribute to clarify this complicated issue.

In this paper<sup>1</sup> we will present the proposal and some of the outcomes of a study we have been developing since 1998 on the complex connection between the primary education teacher and the practice of research. We have reached full development of the third stage of this study, and have already published some papers

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<sup>1</sup> Some of the ideas presented in this paper have already been stated in previous publications that can be found in the references.

that disseminated information about previous stages. We intend to resume and deepen the discussion on some of the major aspects in this issue, trying to relate them to the heated discussion on the theme, which is being currently carried out, including the contribution of the authors who will be mentioned in this section.

## **RESEARCH AND THE PRIMARY EDUCATION TEACHER**

The possible connection between teaching and research in the practice of primary education teachers is something that has deserved our attention and the attention of other colleagues that dedicate themselves to study the subject. Since the 1990's, the theme "teacher-as-researcher" has gained importance in academic discussions, above all, as mentioned before, after the publication in Brazil of D. Schön's book (1983) on the reflective practitioner.

Initially, Schön's ideas did not address teachers directly, but as they focus on the value of reflection on experience, according to Dewey, and on tacit knowledge based on Polanyi, such ideas have attracted a lot of attention among teachers, and inspired a varied range of papers on the importance of teachers reflecting on their practice before, during and after it takes place. In opposition to technical rationality, Schön advocates a kind of epistemology of practice in which teachers position themselves in an attitude of analysis, production, and creation in respect to their actions when facing challenging situations.

Such a perspective, combined with that previously proposed by L. Stenhouse (1975), which is based on the principle that teachers need to assume research of their own practice, critically and systematically conducting their activities to identify main structuring ideas for each teaching/learning situation, has yielded a series of papers oriented to the idea of more autonomous teachers. To Stenhouse, research should be the basis of teaching practice, the curriculum being its central focus since it is through curricula that schools convey knowledge. According to Stenhouse, educational reform should include professional development of teachers as researchers of their own practices, who turn their classrooms into real teaching labs.

The spread of such thoughts among us, as well as the thoughts of other authors (Elliott, 1989; Zeichner, 1992; Giroux, 1990; Contreras, 1997; Perrenoud, 1996), has instilled increasing value to the perspective of research in teacher education and practice. This perspective is mentioned by various authors and even in the legislation as something important for teachers' education and practice, and so it must be introduced during the initial and continued education of primary education teachers.

However, little is known about what really happens in this respect among such teachers. How do they conceive of the role of research in their schools? What kind of education did they have and what are the conditions for them to put it into practice? What kind of research do they actually do? Where is it publicized? Is it possible and feasible for teachers to investigate their own practice? These and other questions have motivated us to conceive and implement an integrated research program that seeks a possible connection between research and teaching.

The initial motivation to investigate the connection between primary education teachers and research emerged when we developed an investigation on the process of professional socialization of teachers (Lüdke, 1998). One of its findings amazed us: professors who taught future teachers in teacher education programs (both at high school and college levels) did not point out teacher research and research training as important aspects. In general, the educators in charge of teacher education programs we interviewed did not consider research as a necessary component in the education of future teachers. This has struck us so greatly that we decided to propose a research project about it.

The first stage in the project approached primary education teachers' field of practice. What is the relationship between teaching and research at primary education level? We wanted to know whether teachers in primary education schools were developing research activities parallel to their teaching activities.

For the fieldwork we chose four public primary education schools in Rio de Janeiro particularly privileged because they counted on basic resources for research activities, such as salary supplementation, specific working hours and adequate physical infrastructure. The criteria used to select these schools ensured us of the



existence of proper conditions for teacher research. Therefore, we selected two primary education schools connected to public universities, one very traditional school with a unique hiring system linked to the federal education system, and a new school conceived according to a pedagogical innovation project linked to a large health research organization. All schools have somewhat special characteristics such as good facilities and a unique system to hire personnel, and were ideal for the survey we were proposing to conduct: contexts that somehow favor the exercise of research, which could possibly be one of the activities of teachers.

Moved by the desire to make public our investigation of primary teachers' research, we went to work and, based on visits to the four schools chosen, studies of the documents collected, and, above all, on interviews, we managed to gather a valuable set of information on the presence of research practice among primary education teachers. For the interviews, we selected teachers from the various areas of the curriculum indicated by school coordinators as likely to carry out research. We contacted around 70 teachers whose interviews supplied us with interesting clues for analysis.

The investigation revealed how these teachers viewed research, and their preparation to do it, as well as the conditions and encouragement for its performance. To that end, we started out from some basic aspects assumed as key questions to guide interviews with teachers. The following questions were important to determine how the investigation should be conducted: the type of research carried out in schools, the concept of research that supports respondents' activities, support and reward for teacher research, as well as training for teacher research, and the continued education program that supports the research work.

One of the objectives of the investigation was bringing to light teachers' concepts about research and reviewing the work carried out under such designation. About half of the teachers interviewed confirmed that they do research. Many of the teachers conducted personal research linked to their graduate programs; others participated in scientific associations, conducting research as an activity integrated to

teaching or as an activity parallel to their work in the schools; and some carried out research as teamwork generally to produce teaching materials.

Despite the favorable conditions in the schools surveyed, not all teachers interviewed declared to “be doing research”, and this seems somewhat surprising since research is part of their teaching obligations, with time set aside for this purpose as well as financial support, in at least three of the schools surveyed.

Generally, the schools are somewhat flexible as to the control of teacher research activities. From the research project itself to the final research report, or some other document that may indicate its development, nothing is duly recorded, classified and made available to individuals outside the schools or even for colleagues.

It is important to recall the distinction between “being connected with research work, doing research, and being a researcher” proposed by Beillerot (1991). Participation in a research project may allow a person to feel connected with the activity and declare to be engaged in it. But the expression “to do research” indicates greater responsibility of the individual for the activity, and if it is carried out regularly and autonomously it may then lead to the status of researcher, with the corresponding distinction and recognition by academic institutions. Our teachers are in general in a situation close to “being connected with research work”, which is vaguely defined as a “project”, and not always identified as a research project. In general, the investigation reveals a reasonable number of projects which can currently be defined as research jobs whenever their authors are teachers connected to graduate programs – Master’s or PhD degree programs – or to research groups linked to universities and research centers.

Another important finding in the survey is the ambiguity that surrounds the concept of research. Plunged in the daily problems of schools, our respondents perceive that in order to face them it is neither possible nor convenient to follow the steps systematized by the academic research model although they recognize its “superiority”.

As we have had the opportunity to comment on (Lüdke, 2001a), the difficulty involving a concept of research that is not consensual sometimes causes

distortions that end up limiting the very concept of research. One example of this is the relationship between reflection and research. Reflection during and on action is a strategy that may help teachers problematize, review, criticize, and understand their practices, producing meaning and knowledge that aim at transforming school practices. However, reflection is not a synonym for research, and a teacher who reflects about his/her practice may produce knowledge, but is not necessarily a researcher. When he/she progresses beyond reflection, beyond the act of repeating the effort to understand the phenomenon, he/she narrows the distance that separates him/her from research work, which presents, however, other requirements, among them, analyses in the light of theory.

Another aspect analyzed by the investigation relates to the conditions available in schools for the development of activities one expects from teachers-as-researchers. It was also found that the four schools offer financial incentives for higher degrees, and this explains the large number of teachers having Master's or PhD degrees. Besides these incentives, one of the schools offers salary supplementation to teachers who develop research projects. Teachers' working hours vary a lot. Data indicated that educators teaching fewer classes per week and being hired for a higher number of paid working hours carry out research more regularly. At any rate, although the four schools offer teachers time for research, no proper facilities are available for activities of this nature. Only one of the schools has better facilities and resources.

This is one aspect of utmost importance for teacher research. For research to become an integral part of school reality, it is important that it be perceived as a school activity supported by elements such as work contracts, time for research, financial support, and physical infrastructure for research activities.

Another aspect the research project focused on was teacher education. For research. According to responses of 48 of the 70 respondents, it was possible to detect some degree of resentment about the lack of training on research in undergraduate teacher education programs. Even so, the contribution of universities with their undergraduate and graduate teacher education programs, and the experience teachers usually amass in the course of their lifetime and teaching careers were cited by some

of the teachers as the main research education possibilities. However, despite the recognition of the importance of such elements, there are limitations to current university research education. Some teachers mentioned the lack of specific research-oriented courses and the impossibility to participate in scientific initiation programs.

Due to the limitations in teacher education and poor working conditions, research that could and should be carried out by teachers is also limited. It would be good if the involvement of teachers with research were not restricted to supplying data to other researchers, but included critical investigation relating to problems of their professional practice. In view of this picture, we pose the following question: how is it possible to have teachers such as those interviewed assume their responsibility and capacity for carrying out research if the very representation of research that guides them inhibits them, and stops them from seeing themselves as such, as some French researchers say? (Fleury et al, 1994). In other words, research-oriented education as it happens today, when it happens, tends to cause teachers to have representations about research that are impregnated with the academic connotations, so that there is not much room left for wider parallel concepts that can encompass work oriented to solve daily school problems without giving up the care that should guide all types of research.

## **RESEARCH AND TEACHER EDUCATORS**

Among the findings of our investigation is the vision of respondents about their poor training to become researchers. This has made us ask ourselves how future teachers are and should be trained for research, not only in Master's or PhD programs, but also in regular teacher education programs. How do professors in teacher education programs see this training, how do they plan to make it effective and appropriate to the working conditions their students – teachers-to-be – will face in public schools?

Our work tried to fill the gap between hot theoretical discussions on great teacher education issues carried out in the universities, and the reality lived by educators in charge of performing tasks related to teacher education. Professors in

teacher education programs are the ones responsible for the painful duties involved in this effort. They are affected by the consequences of new legislation proposals, by internal disputes in educational institutions and typical confrontations between disciplines with specific or pedagogical contents, by the classical lack of appropriate definition for theoretical and practical education, among others. Our study sought to focus on the vision of these professors, to find out about the main problems they meet in their effort to train future teachers as researchers, and about how they and their colleagues have faced such problems.

To that end, we interviewed professors in teacher education programs at the two public universities that run two of the primary education schools surveyed in the previous study. We decided to choose some of the programs aimed at preparing teachers for the disciplines that are fundamental to the curriculum of primary education schools. Thus, we selected programs that qualify teachers of Mathematics, Portuguese, Geography, History, Sciences, and Physical Education, and also pedagogical disciplines studied by future teachers (Educational Foundations and Teaching Practice). From initial contacts with coordinators, we reached professors we wanted to contemplate in the study: professors of foundation courses and of specific teacher education and pedagogical courses who were particularly involved in issues of teacher education and teacher research.

We conducted 44 interviews with these professors, and if we consider also the interviews to test the interview plan (which were very valuable), we conducted 50 interviews. They were carried out according to a well-structured but flexible interview plan covering four basic sets of questions: the first set related to respondents' personal information, such as professional background, and work and research experience; the second focused on the survey's fundamental issues, that is, the importance, the need, and the feasibility of research both in the education and in the job of future teachers; the third concentrated on resources and devices used by universities to educate future teachers as researchers; and finally, we asked professors about their concepts of research and their current research activities.

Teacher education programs have been the object of intense debate in the educational scene due to their structural limitations. Many studies and surveys have revealed the problems in the area (Candau et al, 1988; Lüdke, 1994). Recurring criticism targets the 3+1 structure. This structure reinforces the dominance of content education over pedagogical education, resulting in separation between these two dimensions and generally considering the teacher education program an appendix of a BA or BSc program. This dynamic reveals signs of a technical rationality model that prevails in teacher education curricula. Under this rationality, based on the separation between theory and practice and on the overvaluation of knowledge in the specific area one will teach, the solution for problems involving teaching is supplied by theory, and only its application is required. Teacher education curricula organized within this perspective generally include one foundation science, one applied science, and finally, teaching practice in which students are expected to apply the knowledge acquired to problems of daily practice. The pedagogical practice, however, is marked by great complexity that requires more than ready-made solutions produced outside the context.

Teacher education programs offered by the institutions surveyed fit the context described, despite the criticism of our respondents about the bipolarity established between specific content and its application. The two universities investigated are large and outstanding public institutions, each of them running a primary education school. They have therefore vast experience in teacher education, a decisive condition for the proposed investigation.

However, the two institutions differ in some aspects. The older university clearly has a research tradition. Its institutional context is sharply marked by the production of scientific knowledge, and it excels in the national and international scenes. The younger university, however, lacks such a tradition. Nevertheless, concerning teacher education programs, our findings reveal that research tradition in the more experienced university is restricted to bachelor degree programs, and does not specifically address students pursuing teacher education programs. The same is not true for the younger university, whose research experience has been evolving and spreading all of its programs, including teacher education programs. We are thus

considering two important institutions educating teachers for various areas of teaching. However, the university that has more experience with the practice of research is apparently not the one that offers future teachers the best background to conduct research.

Data elicited by the first set of questions of the interview plan indicate that many of our respondents do not have a doctoral degree, although many of them are preparing themselves to achieve one. All of them hold a Master's degree, and many have studied abroad. Approximately three quarters of them have completed a teacher education program. Therefore, about one quarter of them did not have the educational problems that they now face when teaching future educators. The same is valid for a significant part of them – about one quarter – who affirm they have not had any teaching experience in establishments of the basic school system. According to respondents, not all of them had experience with research in their undergraduate programs, although this situation varies for the different areas of knowledge.

The issues focused on the second basic set of questions of the interview plan concerned the importance, the need, and the feasibility of research in teacher education and practice, and the answers of the respondents followed a considerably uniform pattern. Almost all of them said that research is very important and necessary both for teacher education institutions and for teaching practice. However, a more detailed analysis of respondents' answers reveals some differences in their statements, and vague opinions concerning the concept of research itself or the type of research that would be more adequate to teachers in the primary education system. Some respondents have even established clear differences between "scientific" research, carried out in the universities with academic rigor and accuracy, and the research that can possibly be carried out by teachers in their schools, especially in the public education system. Our respondents are even more skeptical as to the feasibility of research carried out in public schools, which may be due to the fact that their perception of life in primary education schools is based on their own teaching experience and on the contact they have with teacher education students who are already teaching.

In spite of their doubts and uncertainty, respondents have generally corroborated the importance of research for teacher education and practice, no matter whether it is conducted according to the model prevailing in the universities or according to the needs and problems experienced by teachers in the primary education system. Some of them even say that, although they recognize the differences between the types of research that apply to different levels of education, they do not accept any hierarchical discrimination between them.

During the interviews, we observed that the discussion on the importance of and the need for research in primary education schools has almost always been accompanied by remarks on the teaching profession, and it has rarely been associated with the relationship between teacher education and teaching practice. Research was considered important and necessary to foster the continuing professional development of teachers. It was a consensus among respondents that teacher education alone is not enough to qualify a teacher to satisfactorily face the real challenges of the primary education system.

According to the opinion of the few respondents who insisted on the feasibility of such possibility, the working conditions of teachers in the primary education system are fundamental to make research possible. In this respect, we have also noticed that professionals who had already worked in the primary education system were more convinced about it. The main difficulties pointed out by respondents were the lack of specific resources and time for research, the inadequacy of facilities, and the lack of agencies providing financial support. As many respondents have affirmed, it is difficult to think of the feasibility of research in the primary education system if there are no specific resources for this purpose. Moreover, the primary education system lacks teachers and its budget hardly supports the payment of teachers whose sole mission is teaching. Reality was presented by respondents in a very crude manner: no official agency concerned with research development awards grants for research in the primary education system. Some initiatives with this purpose have already achieved some recognition in the area of Mathematics in both institutions studied, and they have been capable of involving teachers working in the primary



education system. But this is still far from having a significant impact on the construction of an academic mentality that allows primary education teachers to conduct research.

It has been interesting to find out that some respondents, especially those who work with primary education, insisted on the feasibility of research. According to them, the teacher who really faces the need of research to carry out his/her practice, in spite of all difficulties, is always somehow successful in his/her initiatives. Gimeno Sacristán (1999) affirms that personal motivation is determining for teachers' educational actions. The teacher who wishes to carry out research in the high school environment will always achieve some kind of result. According to the author, it is thus fundamental for him/her to see research as part of his/her professional experience.

The third basic set of questions of our interview plan had the purpose of finding out information on how respondents integrate research into the education of teacher education program students and how they think it is carried out by their colleagues who are also educating future teachers. Based on these answers, we expected to have a picture indicating changes in the devices and resources that contribute to the desired development of researchers in the very process of educating future teachers.

As the answers of some respondents reveal, research-oriented education has been fostered mainly by the initiative of certain university professors. This becomes evident mainly when they invite students to take part in their research, monitoring, and field research groups in order to provide input for their final paper or for their participation in scientific events, among others. As students profit from the possibilities created, they become more acquainted with the many aspects involved in the practice of research. Nevertheless, this is not explicit in the organization of curricula.

Teachers recognize that in order to favor research-oriented education it is necessary to view research as a basic principle in the curriculum proposal. In this sense, the program would necessarily create an environment for research, and students would be encouraged, among other things, to join structured research groups.

However, research is actually developed almost only by students who hold a scientific initiation fellowship. Teachers generally agree that scientific initiation is a very beneficial idea for the beginning of research-oriented education. However, this should not be an undergraduate student's only contact with the research activity. For students who pursue graduate studies, this seems to be a natural path in all of the areas of knowledge to which our respondents belong. Nevertheless, scientific initiation is not yet an integrating and indispensable part of the undergraduate program for students who intend to become teachers, which is an undeniable program weakness in the opinion of our respondents.

It is appropriate to introduce here information supplied by many of our respondents, which may help us to better understand this unacceptable existence of two paths for conducting research. Some say that research programs offered in bachelor degree programs in all areas said to be scientific are more academic programs, whereas research programs for the future teacher should focus on more practical issues concerning the teaching and learning problems of primary education students, and should especially take into account the great expansion in the primary education system. However, it is necessary to bear in mind the risk this position involves, which may lead to the emergence of two hierarchical research types: scientific research that is proper to the university environment and pedagogical research for the primary education level.

The final undergraduate program paper has also been mentioned by almost all respondents, and not all of them favored it. Some consider it an obstacle that delays the conclusion of the program for many students are not able to perform the task satisfactorily. Others advocate the idea that the final paper is an attempt to make the student familiar with research and should therefore remain compulsory. And some respondents consider that the final paper is important to enable the student to write, articulate ideas, and develop critical thinking but the fact that undergraduate programs require the writing of final papers does not mean that students are being educated to become researchers. Some think that this final paper may represent a safe space for the student to take his/her first steps towards researching activities, under the surveillance

of a researcher, his/her advisor, who takes the responsibility of guiding these steps and helping the student to overcome his/her first obstacles. But, actually, this guidance does not always happen because for many reasons not all professors are willing to play the important role of guiding the work of a beginner with all the obstacles inherent to it, thus contributing to reinforce the prevailing practice of the final paper as a mere exercise of repeating ideas gathered from various authors.

Teacher education curriculum reform is one of the measures suggested to improve the teacher education program to more satisfactorily foster the education of teachers-as-researchers. Some suggestions have already been implemented in the form of new disciplines related with research methodology or with the effective opportunity for student participation in projects developed by their professors.

The idea that it is necessary to change the structure of the program to promote direct contact of students with research in order to educate teachers capable of carrying out research is evident in the remarks of the majority of professors of both institutions surveyed. Course content is still considered the aspect that improves teacher education the most. The effort is, above all, to make students master the knowledge they will teach later as best as they can when they finish college.

Another piece of information that was extensively mentioned by our respondents should be pointed out in this consideration of findings. Many of them stated that the expansion of graduate programs is responsible for the growth of research activities by faculty members themselves, and thus also by their students, including teacher education program students. Topics of thesis and dissertations which are underway, or have already been defended, end up influencing the work of professors in their classroom, thus representing a benefit to their colleagues and to the students at the institution with which they are connected, starting what we would like to consider a new culture in university life. Therefore, higher education institutions should stimulate students and give them conditions to practice research, which very rarely occurs out of universities and not in all of them.

We understand that research may be a supplementary component in teacher education. It may provide the teacher with adequate conditions to develop a creative

and critical activity, posing questions but also indicating solutions for the issues surveyed. But in order to accomplish it, it is necessary to overcome obstacles, and one of these obstacles is teacher education itself. How to train practical and reflective professionals capable of analyzing and theorizing their actions and even conducting research?

As we already had the opportunity to comment on (Lüdke, 2001), the implementation of a teacher education system in France (the IUFMs – University Institutes for Teacher Education), in a new location out of universities and also of normal schools, views research as one of the basic components of the new teacher education proposal. In the evolution of the institutions implemented since the beginning of the 1990's, we may notice, however, that too much attention is paid to teaching practice to the detriment of a more vigorous introduction to research practice (Bourdoncle, 1997).

The fourth basic set of questions posed in the interviews refers to respondents' concepts of research. The ambiguity that surrounds the concept of research observed among our respondents in the first stage of our investigation - high school teachers - is somehow noticeable among their professors. Their points of view range from the widest perspective, according to which any type of investigation may be considered research, to the extremely restricted perspective, according to which only the investigation that adopts academic rigor can be considered thus. The latter includes methodology, a concern with the production of new knowledge and the compulsory publication of results for a broad discussion among academic peers.

It is certain that the prevalence of a strictly classical view of research limits the possibility of its development by primary education teachers. For the research of these teachers to be socially acknowledged it is necessary to extend the concept of research traditionally employed by the academic world. Cochran-Smith and Lytle (1999) and Anderson and Herr (1999), American researchers we have already mentioned (Lüdke, 2001) have analyzed the prevalence of criteria that apply to some types of research but not to others, and bearing this in mind they propose some criteria they consider closer to the type of research that primary education teachers conduct or

can conduct. The proposed criteria concern the forms of validation and transmission of the research works that are more integrated to the reality of school life, to the type of relationship between its teachers, to orality, dialogue, conversation, and democratic participation, among other characteristics. As it is a field of study under construction, it is not easy to define criteria encompassing different types of research and the natural willingness to come to a consensual definition.

In this perspective it is important to remember the idea of continuum mentioned by Beillerot (1991) and already comment on by us (Lüdke, 2001). The author warns us about of the danger of classifying and valuing the researches conducted at university as “superior” and “scientific”, thus not considering the sequence of previous research that have set the path through which higher education researchers have come to their findings.

As we have already had the opportunity to comment on (Lüdke, 2001a), we have tried to spread consensus regarding the concept of research, and we have listed the particular aspects of both university research and the research conducted by primary education teachers. And the acknowledgement of differences should not imply a hierarchy between the two activities.

## **ON RESEARCH AND THOSE WHO MAKE DECISIONS ON IT**

Considering the ambiguity surrounding the concept of research revealed in the two phases of research that have already been conducted, we were very much interested in trying to compare this issue with the opinion of those who make decisions on research. In order to understand what elements are taken into account by decision-makers concerning the awarding of grants and research fellowships, publication of research report and space in scientific meetings, we have proposed a third phase of our study, which is being conducted, in order to investigate what should really be considered research.

In the university scene we notice that concern about the education of teachers to conduct research is more evident in discourse than in practice. The practice

is still effectively more concerned about educating undergraduate students to be researchers. Also the research conducted at universities is generally not characterized by clear concern about the issues of the primary education system. Moreover, there are authors such as Hammersley (1993) who advocate the distinction between teaching and research, and who believe that if the same person teaches and researches both functions may be impaired. They point out the risk of reinforcing the supremacy of research over teaching and the damage that may result from it both for teaching and research, if we try to concentrate both roles – teaching and researching – in the person of the teacher.

On the other hand, as we have already pointed out, concern about teacher research has been growing and gaining more and more space in scientific literature. Works such as those by Zeichner and Noffke (2001), Cochran-Smith and Lytle (1999), Anderson and Herr (1999), Lagemann and Shulman (1999) in the USA, and those by André (1994, 2001), Geraldi, Fiorentini and Pereira (1998), Diniz Pereira and Zeichner (2002), Fiorentini (2004), among others, in Brazil reveal that this subject continues to be of great interest.

The issue of the identity of the research conducted by primary education teachers themselves is still very obscure. This form of research has been considered important by all of them and by their professors, as is revealed by our interviews. But when it comes to assuring conditions that allow the teacher to comply with this important function, an almost insurmountable obstacle arises from bureaucratic components, such as course loads and other obligations of the school work, but also the personal characteristics of the teacher and his/her education, as well as the characteristics of the institution where he/she works, such as integration with groups of colleagues, collaboration with university teachers, and – above all – the possibility of receiving a fellowship or financial support to conduct this activity.

In the sphere of research development by teachers, we have seen very productive literature presenting proposals that point out to action research or cooperative research, or even research in collaboration (Diniz Pereira, 2002; Kemmis and Wilkinson, 2002; Fiorentini, 2004).

Action research or collaborative research has been pointed out as a possible alternative, and as a methodological option for teachers to do research. However, we should not fail to mention some important reservations by the academic community concerning the carrying out of this type of research. The most common criticism concerning action research refers exactly to the risk of lowering the level of academic requirements. The difficulty faced by the researcher in order to develop his/her analysis in an objective and rigorous manner is also an obstacle to the success of the research work. The fact is that many papers call themselves action research, but they are much closer to experience reports. We may not forget that researching is also building knowledge, and action research means building knowledge plus action. In many cases, we either observe one thing or the other, or none of them. That is, neither research nor the proposed action is carried out.

We acknowledge that there is a very strong educative dimension in action research, which makes it an approach favorable to school research, but we are not inclined to the idea of restricting teacher research to this type of methodological approach. The very complexity of the concept and of the validation criteria of a research leads us not to accept the idea that teacher research is a different type of research, or else we may minimize its investigative possibilities.

In this sense, considering a scenario that does not define clear criteria, which may be related to the period of construction (and of deconstruction) that we are experiencing, as Shulman (1999) shows so well, it is good to know which items, characteristics, and elements are considered by those who judge them, who decide whether the work should be awarded the title of research or not, and what title it should be awarded. Thus, the purpose of our work is to contribute towards revealing the research culture prevailing among us.

## **CONCLUSIONS**

The considerations based on the investigation we have conducted, and also on our observations and reflections on what has been produced and discussed

concerning the complex relationship between primary education teachers and research, encourage us to propose some reflections as a conclusion to this paper. Two basic aspects deserve special attention due to the implications they have for the issue addressed: the current situation of educational research and the everlasting challenge of teacher education in Brazil.

Concerning educational research, although we do not intend to and cannot assess its current status, we may at least point out some issues that are particularly meaningful to our discussion. In a recent presentation at an Anped (Brazilian Association for Graduate Studies and Research in Education) meeting, André and Lüdke (2004) analyzed teacher education in the last decade in the form of theses and dissertations in approximately 60 graduate programs in education in Brazil. André based her survey on a study already conducted in the beginning of the 1990's, and updated its analysis until 2002. She indicated many problems in her analyses and, among such problems, we are going to highlight those that are more directly connected with the issue we are studying. The first one concerns the excess of studies based on teachers' opinions gathered by means of interviews. Generally, these opinions have been taken down as simple transcriptions, without the necessary analysis that would exploit their possible meaning in connection with the available theoretical reflection and the researchers' reflection itself.

Another aspect pointed out reveals that the very subject of study is sometimes unclear to its researcher. This is a serious matter, for a considerable number of undergraduate, graduate, and PhD researchers cannot come to a clear definition and circumscription of the issue they are researching, which negatively affects the essence of the work. What contribution does the graduate student propose to make? Is he/she profiting/benefiting from either a Master's or a PhD degree program, with all the resources involved in it, and – above all – is he/she dedicating a certain time of his/her education specifically to this task? We are aware of the fact that this time is frequently divided between many tasks, but we believe that the fact that students teach and participate in a graduate program at the same time may represent a very important way to assure the connection of the Master's or PhD program with the problems they face



when teaching. Choosing the issue to be studied by the graduate student is actually one of the most serious challenges he/she is going to face in his/her studies. We do not know whether the programs have been able to offer the students resources for them to face this challenge successfully.

Another issue pointed out by André, which we consider critical to the relationships between teacher and research, is the very concept of qualitative research that has prevailed in the studies of theses and dissertations. We have noticed certain confusion between the various modalities students include under the term qualitative research. The specificities of these modalities are not always respected, and this causes inappropriate use of terminologies and inadequate application of methodological solutions. Qualitative research is a very broad field, and encompasses many trends and procedures, requiring theoretical and methodological mastering of its epistemological principles and their possible applications. There is always the risk that one will distance oneself from these principles or will exaggerate their possibilities.

Lüdke confirmed the vulnerable aspects pointed out by André and insisted especially on the scarcity of theoretical analyses in a large number of the research studies considered. She affirmed that many of these problems arise from the very constitution of the field of education as an area where various disciplines converge. They are also a consequence of the poor theoretical background of educators, often resulting from these multiple inputs, which may not be dealt with satisfactorily. Thus, the already quoted perspective of Isamber-Jamati (1992) on the importance of the future researcher concentrating his/her study on one of these disciplines is justified.

Another critical aspect brought forth by Lüdke was the emergence of the devastating idea that reflection, as a resource to help with problems that teachers face when working could replace – and even eliminate – research. The latter should be valued in this context both for teacher education and action. The decisive inclusion of the student's own methods of qualitative approach have also contributed to a certain reduction in the attention paid to the theoretical and methodological aspects that should guide any research work. Some of these studies, as André showed in her presentation, are not more than mere experience reports, or juxtapositions of

affirmations by respondents, generally teachers, without the due interconnection within a theoretical framework. They also often lack a clear connection with a research issue that may indicate the possible contribution of the works analyzed to the task of facing the problems teachers and students meet in the primary education system.

In their presentation, André and Lüdke certainly referred only to part of the research in education conducted in Brazil, which is represented by the set of studies dedicated to teacher education in dissertations and theses. However, this is the most representative segment in the recent set of studies presented by masters and doctors in education, and it may serve as an illustration of the research issues in this area.

A recent study carried out by Carvalho (2004) in her dissertation focusing research conducted by university teachers on the primary education system also illustrates these problems. The author analyzed studies supported by the National Council for Scientific and Technological Development – CNPq – the most important governmental agency financing research in Brazil. Her conclusions are startling, although they may be somehow disappointing: A large part of these studies (about 70 percent) on the primary education system “do not make clear what the theoretical, experimental or practical advance obtained by them in their research projects and reports was” (p. 160). University researchers are theoretically and methodologically very well prepared, they are very well informed about the academic production of their peers in other countries, but they have not been able to approach the problems faced by teachers and their students in the primary education system with the resources they have.

What we want to extract from these two contributions to our conclusions is the distance noticed between educational research and the fulfillment of its role in primary education institutions. Be it due to the distance of focus guiding the work of university researchers pointed out by Carvalho’s study (2004), be it due to the poor conditions of a large part of the researches commented by André and Lüdke (2004). This lack of connection between research and primary education problems is not limited to Brazil, considering the sharp analysis by Labaree (1992) in the USA and the analysis by Tardif and Zourhlal concerning Canada published in this issue.

As for teacher education, the issues that have long been registered and felt by the educational community remain in the background. In teacher education programs there is a strong division between disciplines having specific contents and disciplines oriented to the so-called pedagogical education. There is also a distance between theoretical education and practical education, the latter made up of teaching phases and practices of very short duration, generally located in a subsequent phase and with an inferior status to that of theoretical education. Teacher education programs also face similar problems, plus a current identity crisis caused by the indefinite situation of the present Brazilian law that governs it and by the creation of new institutions to educate teachers, such as the higher primary education teacher education program and higher education institutes. A clear association between preparation for research work and the education of future researchers by means of bachelor degree programs to the detriment of teacher education programs is still noticeable.

Preparing researchers and conducting research remain the privileges of the universities. Research is still the most valuable currency in the accounting of the university professor career. How to make research on education closer to the two realities that concern it: that of the university, where it is usually carried out, and that of primary education schools, where it is required to answer the most vital problems? This is the challenge faced by numerous colleagues today – researchers who, like us, try to find out paths to overcome obstacles and build bridges between these two realities. The research conducted at universities benefits from the resources and the knowledge of researchers, who carry out this task as being characteristic of their status and assignments. Nevertheless, we have to recognize the lack of productivity and spread of university research in relation to primary education schools, and it is clear that the teachers at these schools are more capable of noticing their vital problems. On the other hand, these teachers who have studied in the universities should have been initiated into research there in order to be able to fully develop themselves as autonomous professionals, in the full meaning of the term, no matter how relative we recognize it may be.

A possible hint towards bridging the existing gap begins to appear in the third phase of our research: The option for “hybrid” studies, that is, studies prepared jointly by primary education teachers and their professors in Master’s degree programs. Maybe that is how we are going to lay down the foundations of a bridge whose construction should have begun long ago – or else it may have already begun, and we have not, however, taken our time to duly explore everything this possibility offers us for a mutual development. On the one hand, the primary education system and its teachers benefit from it, as these teachers certainly further the education they received in teacher education programs along their careers. On the other hand, the university benefits from the direct contact with the vital problems of primary education ensured by the presence of their master students-teachers.

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Received in: January, 2005

Approved for publication in: January, 2005