

Conferences

The Need and the Present Situation of Educational Sciences

Lisbon Science Academy, 27th July, 2006

ALBANO ESTRELA

Dear Mr. Chairman of the Lisbon Science Academy,
 Dear Mr. Secretary General of the Lisbon Science Academy,
 Dear Colleagues,
 Ladies and Gentlemen,

I was rather undecided about choosing the subject for this communication. I was torn between a communication focused on the Epistemology of Educational Sciences and the History of Educational Thinking throughout the 20th century. Both subjects, however, held a feature that did not appeal to me: as a citizen who lived through the major problems in Education in the second half of the 20th century, I was overlooked.

Thus, I chose something in-between that would (in an articulate manner, whenever possible) co-ordinate the three aspects mentioned, i.e., the epistemological perspective, the historical perspective and the personal experience of someone who has a story within History itself. Therefore, I would like to thank the Lisbon Academy of Science for the opportunity given to reflect on the manner in which I have lived and on how I have placed myself with regard to Education and Educational Sciences throughout my life.

Looking back along the road I have travelled for over more than half a century, I cannot help but be happy for having lived in an era, such as ours, so full of ideas and actions in the educational field. I don't know when I became interested in Educational matters, but I believe it may have been when I was a teenager, during the Second World War, after having heard two sermons. The author of those sermons: Father Américo. The power of his words made me aware of two things: the moral obligation we all have in collaborating in the education of our fellows and the enormous potentials within each child, each youngster, potentials that an educator is obliged to help realize.

It was a message I have never forgotten and which later led me to read works by authors in the field, such as Maria Montessori. By good fortune, in the beginning of the 50's I read her "Scientific Pedagogy". Of Christian and Catholic upbringing, (just like the pedagogy Father Américo was putting into action at the *Casa do Gaiato*), Maria Montessori, in her "Casa dei Bambini", valued other aspects, such as a child's spontaneous activity and from there she would base her education intervention. But it was her concern for objectivity and conscientiousness, seen throughout her work, that most impressed me. The privileged instrument used to bring such concern to fruition: thorough observation of her students, of the situations, and the environments in which teachers and students interact.

This then, was a new means of forming pedagogic intervention, based on detailed and precise descriptions of being and doing: a different understanding of the pupil and his/her relationship with the environment and the teacher, a dynamic interpretation of the classroom, founded on objective data, subject to observational control.

But what impressed me the most was how different it was from the education my colleagues and I were subjected to at the college we attended in Porto. Education was traditional, centred on memorizing things that were beyond our comprehension, on obedience, on physical and mental immobilism. This unavoidably caused a generalized feeling of rebellion and violence which exploded when one least expected.

These and other perspectives were a breath of fresh air which opened new horizons and led me to contact educators and methods in different fields in vogue at the start of the 50's.

It is also worth alluding to the two major educational intervention and theorization lines which still persisted at the time in Portugal: on the one hand, a

secular and republican education; and on the other, the movement that became known as the New Schooling (*Escola Nova*). These lines were sometimes converging but most often they were parallel since they were based on different premises.

Although secular and republican education was no longer considered a good and socially appealing reference, the same could not be said of the New Schooling which, although prejudiced by the educational policy of the self-proclaimed New State, emerged as a lighthouse showing new paths for future educators, despite the pressure (and repression) which they were subjected to. Therefore, it was cantoned in private institutions, where there was more room for freedom. New Schooling or New Education, was ultimately centred on the child and the activity carried out by the child and which was often considered synonymous with active school. The recent findings by psychological science have established an increasingly stronger basis for its implementation and theorization.

Quite early on and also within the web of chance which has forged my life, I was introduced to the works of Lenin, Krupskaja and other Marxist authors who wanted to found an educational system that would realize the ideals of a radical socialism. Those were the beginnings of a Soviet Education, which was continued by Makarenko and Blonskji. This was another revelation that, although it did not make me question the previous perspective, it did alert me to the need to get better acquainted with those new paths opening up to Education.

Paths... the path along which Christian Philosophy gave way to Marxist Ideology, the individual became diluted in the collective and Psychology (as a foundation for Education) was replaced by Politics and Sociology, ultimately a real storm shaking the foundations of western culture and education.

At the same time there was another matter that continued to bother me, a matter subjacent and parallel to that I have just mentioned: what were these pedagogical practices really like? Or, in other words, were such practices so different from each other as their theoretical enunciations wanted us to believe? Or, further still, did the pedagogical work carried out at school, in the classroom, have its own autonomy or did it actually derive from the ideologies such practices claimed to be the expression and vehicle? This concern I felt can only be completely understood by going back to those times, which were highly influenced by Sartre existentialism, in which “existing” (in this case, the transitory state of being, and doing) came before “being”.

As it was not possible to observe the Soviet pedagogical practices “in loco”, I was limited to making contact with the Freinet Techniques of Modern Schooling which, in a way, gained inspiration from the Marxist theory and learned from the work model of Soviet

school. I continued my search for other means of educational intervention which would give me the chance to try out other ways of being in the teaching-learning environment. From among all these ways, the most outstanding was Carl Rogers’ non-directivity — a practice which was becoming widespread in European countries in the 60’s, particularly in France, and was starting to become recognized in Portugal. Non-directivity, which, in the form used among the Portuguese, was based on clinical therapies of psychoanalytical source and on the dynamics of Kurt Lewin’s restricted groups. This period was rich in experiments which I undertook not only in higher education, but also in secondary school — some among many occasionally being tested a little everywhere.

Teaching in the technical-professional and lyceum fields gave me a clear knowledge of the realities of our education, not only in metropolitan Portugal, but also in the Portuguese colonies. It was overseas, when rector of a lyceum in Cape Verde, *Liceu de Adriano Moreira*, that I became aware of a number of socio-economic problems that affected the whole teaching-learning environment in a decisive manner. It was also at that time that I was given the opportunity to publish the magazine “*Estudos Pedagógicos*” (Pedagogical Studies), the aim of which was to transmit an experimental perspective regarding teaching.

On returning to Lisbon, I became director and professor at the Instituto Nacional de Educação Física (National Institute of Physical Education). This experience in a higher teacher education institute, followed by that of assistant to the Pedagogical Sciences course at the Faculty of Letters of Lisbon, heightened my interest in building scientific knowledge which would enable me to perceive teaching and teacher education differently.

But my main concern remained the same and I found no answers in educational theories or in the pedagogical processes these theories proclaimed. This concern could be summarized in two or three questions: how should the pedagogical function be scientifically characterized? What consequences do pupils face as a result of a certain teaching practice? What relationship can there be between such a practice and the training to which that teacher was subjected? This is the context of my participation in the organization of the first International Conference on Educational Sciences held in Lisbon at the beginning of 1974. Subject: Class Observation and Teacher Education. This conference was decisive in my career as a teacher and as a researcher in Educational Sciences, as the observation of students and the training of teachers became one of my major concerns throughout the following 30 years.

If it is true that the revolution of the 25th of April opened new perspectives on Education, it is also true

that in many aspects it also continued and increased educational assistance policies needed for the economic development occurring since the 60's. The boom in the educational system, the extension of compulsory education, the merging of technical-professional and lyceum education (with all the problems regarding the loss of their respective specificities), the broadening of technical-scientific knowledge of Portuguese society which was becoming a multicultural society, contributed to the inevitability of a reform in the educational system. The need for educational changes that the 25th April put into perspective, gave rise to the development of a scholarship policy, already begun by Veiga Simão at the start of the 70's, for courses taken abroad (Europe, U.S.A.), most of which leading to a doctor's degree. This happened in many areas of learning, including Education. I was one of those to receive a scholarship, and chose France, where I worked with Gaston Mialaret — the greatest francophone specialist in experimental pedagogy. Working with Gaston Mialaret answered many of my queries by giving me the chance to make use of methodologies and precise instruments for the analysis and evaluation of the educational phenomenon. From among the research lines I worked on, I would like to emphasize those referring to teacher education, in which I systematized and applied new processes and new techniques for direct and indirect observation of educational situations and actors. I believe that, in a way, my work has become consolidated among us and has enabled the training of educational agents with more solid foundations, since they became more objective and experimentally controllable.

Perhaps it is necessary to recall that in the so-called Latin European countries, the appearance of the Sciences of Education was preceded by the attempts to constitute the Educational Sciences, a concept sometimes coincidental with that of Scientific Pedagogy, which is based on Child Psychology and on the appropriation the pedagogue Maria Montessori made of it, as we said at the beginning of this communication. It cannot be too strongly emphasized that this is an historic moment in the “scientification” of the educational phenomenon — for several reasons, one more outstanding than all the others, is the coexistence of two ways, sometimes distinct, sometimes intersecting, of “scientification” of the educational phenomenon. One of them, which would become more preponderant, was the application or adaptation of the principles of other sciences (above all Psychology) to the educational realities, well illustrated by Claparède and his concept of “tailor made education” — education organised according to the needs of each student. Although the tools for individualization were from a psychological field, the individualization of the subjects was always accomplished in an educational situation. The operational didactics of Hans Aebli, dis-

ciple and collaborator of Piaget, was in the same perspective of analysis and intervention.

As for the second way, theory is no longer prior to the analysis of reality, rather, to the contrary, originates from it. I am referring to the second generation Scientific Pedagogy (already mentioned), an autonomous paedagogy, valuing objectivity, even whilst seeking to capture the “subjectivity of the subjects” and seeking to become free of any and all ideologies.

But the central problem (for me) continued to be the same: observation, yes, as a starting point for the formation of the scientific explanation, but what observation? Observe what and how or, in other words, on what principles should observation be based? What methodologies should be used?

The observation used, as much in Psychology as in Pedagogy, by the authors I have just mentioned, led not only to the experimental manipulation of new teaching methods, but also to the study of the different variables that influence them, within certain lines of research, today called prognosis-product and method-product (that is to say, the study of the effects produced, respectively, by the variables inherent to the person of the teacher and by the variables relative to the teaching behaviour).

Thus, the black box, which was the classroom, was beginning to be uncovered, permitting to get different perspectives from reality, encouraging both a new attitude towards educational situations and new perspectives of teacher education, which I tried to disseminate among us, after my return from France.

Note that, as from 1975, change has speeded up — in political, social, economical sectors, in the conditions of life and respective values, together with the consequent changes in the educational system, already referred to in part. But it was not only at the level of the system where changes were noticed. A huge appetite for scientific knowledge in the educational field was becoming evident, which made new perspectives and well-founded interventions possible, creating expectations very often beyond any science possibilities, at a certain moment in its development. Several factors contribute to this appetite, such as, the return to Portugal of a great number of scholarship holders as well as other researchers, expatriates who, meanwhile, had obtained doctorates in Educational Sciences, giving rise to the spread and development of various lines of research. From among them, it is worth noting that of curriculum studies, especially from the developmental aspect, with the incidence on the definition of objectives and the formulation of educational intervention strategies. This, as was inevitable, gave rise to theoretical works and research within the context of evaluation, applied to education and training situations.

The organization of national and international debates, among them those promoted by the Portuguese

section of AFIRSE, over which I have presided, with the presence of great international names in educational research field, also constituted another vector of intervention, which I have always considered vital, since it was complemented by the publication of their respective proceedings. At the same time, an increase was noted in the publication of scientific works, examples of which are the miscellany of works on Educational Sciences by national and international writers, which I personally oriented, with Maria Teresa Estrela, or the one Nicolau Raposo oriented in Coimbra, or still more, those oriented by José Augusto Pacheco in Minho and Isabel Alarcão in Aveiro.

The Portuguese Society of Educational Sciences, of which I was one of the founders and chairman, constituted a moment of development and stabilization of Educational Sciences and offered me, in its turn, an activity that allowed me to intervene in various fields of Education.

The creation 25 years ago of the Faculties of Psychology and Educational Sciences together with the existence of a body of teachers holding doctorates enabled the creation of Masters and Licenciates in Educational Sciences in mid 80's, not only in those Faculties, but in other university institutions. This was a determining factor in the expansion of educational scientific research in our country — and the valuation of our teaching staff at all levels of teaching.

Thus, I was able to be a participating witness of those years, rich in ideas, theories and practices with which my generation was confronted and in relation to which they had difficulties in finding a place. If none of us had doubts about the need for change, few of us had clear ideas about how to accomplish this. The world was changing and so was the world of education. But what direction were those changes taking? If our pedagogic concepts, founded on scientific progress, led to an increase in the importance of learning to the detriment of teaching (although this would remain the core of schooling), changes of all kinds, occurring in western societies and the transformation of the social structure of the school populations, exercised pressure on the schools and on the teachers, called to fill the social and familial hiatus, which led to a broadening of their roles and functions. The reforms and educational innovations that followed in the system, with no serious evaluation of the previous ones, caused decisive alterations to the doing and to the being in the world of Education. Alterations, yes, but also opposing reactions. The intensity of the conflicts gained political and social expression, which in no way helped Education. The arguments for and against, of defenders and opponents of a new education, seemed to be on a par and perpetuated the debate. An insoluble situation, a cul-de-sac where there was no exit in the world of ideas (or ideologies) the debate was confined to.

As an illustrative case, we can refer to the Curricular Reform of the end of the 80's, which even today engenders the most divergent evaluations and the most contradictory solutions to the problems its implementation caused. This Reform was supposed to be inserted in a global reform of education, which promised much and accomplished little. A Reform which proposed a multiplicity of alterations, such as the reformulation of central and regional administration of the system, the curricula and, therefore, the school programmes of both primary and secondary education, the evaluation procedures of pupils, the on-going education of teachers. Even if put into action in these and other spheres, the only reformist act of any consequence was the reorganization of the system's administration which, we have to agree, was meagre, infinitesimal. I have tried, thanks to my functions as chairman of the commission accompanying the Curricular Reform, to intervene in the redefinition of the curriculum and in the on-going education of teachers, linking them as closely as possible. Unhappily without great results, fundamentally for one reason: the reform was corseted in autonomous segments with no possibility of working together. It was an experience that left a bad taste in my mouth and which made me limit myself, for always, to teaching, research and management in my faculty.

There were also great changes in research. The epistemological crisis of the so-called hard sciences, rekindled the criticisms of the use of the positive paradigm in educational research, which had already appeared in the 19th century and of which Dilthey was one of the principle exponents, giving rise to new paradigms rehabilitating subjectivity (of the subject, of course). The work I undertook to obtain my Doctorat d'Etat constituted a compromise solution, possible at that time.

In effect, the difficulty in making the observed behaviours significant, especially for being unaware of their intrinsic purposes, led some of the observers to alter their position, shifting from distance to participation, so as to learn the relational meaning implicit in the situation observed. The criticism of positivist reductionism and its alleged objectivity and neutrality led to awareness of the interactions established between the observer and the observed. The observing subject and the observed 'object' became part of the same territory, the only process to understanding a complex and irreversible reality. Thus, such position corresponded to the "observer-observed territoriality", the main reference framework of which was the principle of phenomenological reduction. To accomplish it, participating observation and participated observation techniques were used. The framework on which these techniques are based always derive from a need to link "intention—meaning". Note that such a linking has originated a wide range of interpretative variations, which, despite

being indirectly supported by Husserl, have led to valuing holistic and ecological approaches and to bringing interactionist tendencies to the present day.

It should be noted that these new methodologies derive from the first half of the 20th century, from subjects such as Social Anthropology (mainly with Boas and Malinowski) and Sociology, of which the school of Chicago became the main exponent and centre of diffusion — thus contributing to dimming some disciplinary frontiers. Although a number of precursory works can be indicated, it is only from the 70's that their (always increasing) impact is actually noted in the approach to educational phenomena, where their fecundity is, in fact, notorious, leading to the reformulation of old sets of problems and to the constitution of new study objects. The school and classroom ethnographies, communication and pedagogical relationship studies, studies related to indiscipline, to streaming, to the institutional cultures of the school and the cultures of teachers and students, are only a few examples of research fields which have rendered educational reality with a new intelligibility, whilst such reality is socially constructed and transformed through the meaning the interveners confer on the situations in which they act and interact.

Thus, it was the evolution of the methodologies of observation and interpretation that permitted an effective progress in making education research autonomous and less dependent of the sciences that gave birth to them. Let me explain: nowadays, in the History of Education, little or nothing has anything to do with research in History, the same can be said for Educational Psychology in relation to Psychology, or Educational Sociology in relation to Sociology. What I have just stated is, naturally, valid for other Educational sciences, which at the moment are gaining an autonomous status. When referring to this evolution in educational knowledge, Othanel Smith considers this to be a phase of “changes to the way of thinking pedagogical knowledge”. And he also adds that it is only now (note he is referring to the 60's) that we are capable of facing teaching as a phenomenon as natural as the political or the economical behaviour. It is never too much to emphasize the importance of this perspective, which, ultimately, corresponds to a new phase of epistemological approach towards Educational Sciences, removing them from the theoretical and praxiological actions to which the mother-sciences had subjected them to. In a book I published over 25 years ago, I referred the case of Pedagogy as a teaching science, with an evident specificity, because it was not subject to the dependency on other sciences — not on Psychology, or Sociology — these were sciences that studied other phenomena. I tried to prove this thesis by developing the ‘pedagogical irreducibility’ concept, as an autonomous and specific reality. Nowadays, with the development of research, something similar can be said of other Educational Sciences.

I believe this situation is not felt only in the Educational field. I think the same can be said of other sciences, such as the Medical Sciences. In fact, as there isn't a Medical Science as such, but a series of different fields of knowledge whose specific area is Medicine and which has the Medical concept as an aggregational nucleus of its set of problems, Educational Sciences also have a specific field and a centralizing concept — Education. Therefore, we can say that, ultimately, what characterizes the various Educational Sciences is their “educational irreducibility”, which is the reason for their identity.

Another opinion is that raised by some authors who have been advocating other paradigms for the epistemological and methodological setting of Educational Sciences, given that they are polysemous and multi-referential sciences. Of such paradigms, disciplinary comparison and multidisciplinary studies should be noted. However, research and intervention models deriving from them have not shown the necessary operational capacity, namely because they refer to a certain main science, which serves as a standard model, whether we want it or not.

In recent years, a change of direction to a different paradigm has been noted, which is of proven theoretical fecundity. I am referring to the complexity of Edgar Morin as an author and major theorist, especially with regard to his more current expression among us. In truth, the modelling of complex systems has enabled new epistemological interpretations. However, the same cannot yet be said of the scientific research deriving from such approach. I think we must wait for the evolution of methodologies more suited to the implementation of this paradigm.

I would not like to finish this general outline without referring to another paradigm which, due to its closeness to the action, has become a *sui-generis* form of research, initiated by Kurt Lewin: the action-research. This paradigm gave rise to many known research-intervention projects, some with a strong community intervention component, such as the Alcácer, ECO, and PLUX projects, others focused on teacher education, such as FOCO and IRA. As well as the effects it actually originates, action-research has the merit of attracting to the research field not only educational agents, but also other actors in the Educational field.

Despite these difficulties, the questions of identity that have concerned epistemologists and philosophers of education have not been very relevant in the educational research field. It has been following its own course, moving upwards, as is evident by the number of books and articles published every year in several countries in Europe, the Americas, Oceania and Asia. Privileged place for such research: Universities and Specialized Centres.

Another question that must be addressed is related to the difficulty in distinguishing what is of science and what is of praxiology. This is an open debate within the educational field, for which suitable criteria have not yet been established.

Another increasingly vivid present-day aspect which must be mentioned is that the scientific knowledge of educational reality, expressed in terms of explanation and understanding, needs to be reinterpreted in an ethical and ontological light, because, for all educational action to be so, it must be subordinated to the values that are beyond any scientific truth whatsoever. This is a decisive matter, which I must point out, but which I cannot develop in the short time I have available.

Briefly, I'd say that, despite all the difficulties and obstacles encountered, Educational Sciences have enabled a specific and objective knowledge of the various areas in which educational practice and theory is developed. Despite having significant methodological variations, Educational Psychology, Sociology of Education, Educational Administration, History of Education, Educational Evaluation, Curriculum Development, Pedagogy and Didactics, Teacher Education, Adult Education, Comparative Education, Educational Technology, Philosophy and Epistemology of Education, have deepened their own knowledge, perhaps not always interacting among themselves, but which have an enormous human development potential, not even suspected a few years ago.

And, to end, a footnote on what has been written regarding the evils of Educational Sciences. In truth, I don't believe there has been any great good or evil done. For one very simple reason: Educational Sciences and its scientists have not been called to systematically and continuously intervene in any domain of the Portuguese educational system. The specialists and universities have only marginally and sporadically intervened in what is considered under the competence of the

ministries of tutelage. A good example is the so-called Curricular Reform of the 80's in which no Educational curriculum specialist — Portuguese or foreign — intervened. Whatever the case, the decision will always be, obviously, made by politicians who will use, or not, the elements provided by Science, according to the purposes they hope to achieve. Despite this fact, we must not forget the amazing work undertaken by Universities and some Polytechnic Institutes in the last 25-30 years in their scientific approach of the multiple Education aspects, and the curriculum development included. To waste this inexhaustible source of knowledge (as has generally been the case) reveals a serious disregard of public powers, which we cannot accept, whatever the reason, and which we must denounce. However, in truth, I must say that in recent years something seems to be changing. The participation of specialists from various fields, such as Educational Administration, Curriculum Development and Educational Assessment, is a positive sign which we hope is not a mere will-o'-the-wisp, blown out in the political-administrative conflict in which we permanently live. Let's hope, dear fellows, let's hope, ladies and gentlemen, let's hope...

Lisbon, Science Academy of Lisbon, on 27th July, 2006

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