Professional Development of Teachers: past and future

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ABSTRACT:

The professional development of teachers is regarded as an individual and collective process that should be accomplished in the workplace of the teacher, i.e. the school. Furthermore, it is looked upon as a contribution to the development of the teacher's professional skills, by means of a variety of both formal and informal experiences. The concept of professional development has changed over the last decade, as a result of increasing understanding of how the teaching to learn processes are created. Indeed, professional development has recently come to be viewed as a long term process, covering different types of opportunities and experiences that are systematically planned to stimulate the development and evolution of the teacher.

The professional development of teachers should be conceived in close connection with a search for professional identity by how they define themselves and others. It is a construction of the professional *I*, which evolves throughout their career and may be influenced by the school, political reforms and settings, is based on personal commitment, the availability to learn to teach, beliefs, values, knowledge on the subjects they teach and how they teach them, past experiences as well as professional vulnerability. Professional identities are a complex web of histories, knowledge, processes and rituals.

KEYWORDS:

Professional Development, Professional Identity, Teaching and Learning, Teacher Education.

Teacher education still has the honour of being simultaneously the worst problem and the best solution in education

<div align="right">MICHAEL FULLAN, 1993</div>

INTRODUCTION

Whenever I mention or write about the professional development of teachers, I tend, always, to refer to the work of Linda Darling-Hammond, "The Right to Learn" (Darling-Hammond, 2001). I do so, as I feel one should recall that schools were created with a view to transforming the minds of students into educated minds and nowadays, teachers are expected to show even greater signs of trust, commitment and motivation (Marcelo, 2002) to ensure that this right continues to be respected.

Much has been written on the influence of current social changes on society itself, on education, schools and the work of teachers. We have always known that the teaching profession is a "knowledge profession". Knowledge has, in fact, been the legitimising aspect of the teaching profession and the justification of its work has been based on the commitment to transform such knowledge into relevant learning for students. In order for this commitment to be renewed, as is the case with many other professions, teachers have always been required to display conviction towards the need to broaden, further and improve their personal and professional skills. Zabalza (2000) stated that we have converted "the

pleasurable experience of learning something new each day into an unavoidable survival principle" (p. 165). Thus, being a teacher in the 21st century is based on the assumption that knowledge and students (the raw material with which they work) are being transformed at a far greater speed to what we were formerly used to. Therefore, the teacher will have to make an extra effort to continue to learn in order to suitably foster students' right to learn.

Recent international reports have focused their research on and highlighted the importance of the role of teachers through the learning possibilities of the students. The title of the recently published OCDE report is an example of this: *Teachers matter: attracting, developing and retaining effective teachers* (OCDE, 2005). The title says that teachers matter, in other words, they must be taken into consideration in the improvement of the quality of teaching that students receive. In this report, it is stated that: "There is currently a considerable amount of research indicating that the quality of teachers and the way they teach is the most important factor in explaining student results. There is also considerable evidence that teachers vary in their efficacy. The differences in the results of students are often greater within the same school than among different schools. Teaching is a demanding job and not everyone is capable of being an effective teacher and keeping up such standards over time" (p. 12). This report is a reflection of concern regarding teachers, on an international level: making the teacher profession an attractive one, keeping the best teachers in

the educational system and managing to keep teachers learning throughout their careers.

More recently, a discussion document on educational policies was presented under the Second Intergovernmental Meeting of the Regional Education Project for Latin America and the Caribbean, which was held in Buenos Aires on March 29th and 30th 2007, in which it was stated that "teachers are fundamental actors in guaranteeing the population's right to education and in contributing towards better regional educational policies" (p. 49).

In addition to the OCDE study, the prestigious American Educational Research Association (AERA) not only divulged the report which sets out to sum up the results of the research accomplished in teacher education, but also proposed educational policies which take these results into consideration. . It is stated that "in every nation there is an emerging consensus that teachers have a significant impact on student learning and school efficacy" (Cochran-Smith & Fries, 2005, p. 40). Along the same lines Darling-Hammond (2000) stated that student learning "depends, primarily, on what teachers know and what they can do".

Thus, the main theme of this article focuses on a fundamental aspect of the teaching profession debate; the processes used by teachers in their learning which develop and improve their repertoire of skills. It is important to remember that we are not starting from scratch, the development of the teaching profession and study of the teaching to learn processes has been of constant concern for educational researchers over the last decades. Hundreds of research studies and scores of reviews have been carried out with a view to coming to grips with these processes. Both the third (Wittrock, 1986) and the fourth edition (Richardson, 2001) of the *Handbook of Research on Teaching*, include chapters reviewing and summing up the training and development of teachers. Such works, as well as recent review articles published in specialised journals (such as those by Cochran-Smith & Zeichner, 2005; Feiman-Nemser, 2001; Putnam & Borko, 1998; Wideen *et al.* 1998; Wilson & Berne, 1999; Zeichner, 1999) provide us with a fairly updated panorama as regards accumulated knowledge on the learning to teach process, both in terms of its consensual aspects as well as its most debateable. On the basis of these relatively broad revisions, we are able to form a picture of the situation and establish sufficient knowledge so as to begin to answer the question: how does one learn to teach?

PROFESSIONAL DEVELOPMENT OF TEACHERS: WHAT ARE WE REFERRING TO?

In this article, we have opted to focus on the concept of the professional development of teachers. Within our context, we are in a position to refer to other notions: permanent training, continued training, in-service training, human resources development, life-long learning, re-cycling or skill-building courses (Bolam & McMahon, 2004; Terigi, 2007). However, we are of the opinion that the term professional development lends itself best to the conception of the teacher as an educational professional. On the other hand, the concept "development" has a connotation related to evolution and continuity which, in our opinion, goes beyond the traditional overlapping of basic and continued teacher education.

Rudduck referred to the professional development of the teacher as "the teacher's ability to maintain the curiosity of the class; to identify significant interests in the teaching and learning processes; to value and seek dialogue with experienced colleagues as a source of support in the analysis of situations" (Rudduck, 1991, p. 129). From this perspective, the professional development of teachers may be interpreted as an attitude based on constant questioning and the search for solutions.

We will now go on to present some of the more recent definitions of the *professional development of teachers'* concept, formulated by well-known authors:

· "The professional development of teachers goes beyond a merely informative stage; it implies adaptation to change with a view to changing teaching and learning activities, altering teacher attitudes and improving the academic results of students. The professional development of teachers is concerned with individual, professional and organisational needs" (Heideman, 1990, p. 4);

- "The professional development of teachers is a broad area which includes any activity or process intent on improving dexterity, attitudes, understanding or involvement in current or future roles" (Fullan, 1990, p. 3);
- "It is defined as the entire process that improves knowledge, dexterity or teacher attitudes" (Sparks & Loucks-Horsley, 1990, pp. 234-235);
- "It implies the improvement of control skills of the actual working conditions, a progression of professional status within the teaching career" (Oldroyd & Hall, 1991, p. 3);
- "The professional development of teachers includes all the experiences of natural learning as well as the more planned and conscious ones which try, both directly and indirectly, to benefit individuals, groups or schools and which contribute to improving the quality of education in the classroom. It is the process by which teachers, whether alone or accompanied, review, renew and further their commitment as agents of change, with moral teaching aims. Moreover, they acquire and develop knowledge, competencies and emotional intelligence that are essential to professional thinking, planning and practice with children, adolescents and colleagues throughout each stage of their teaching lives" (Day, 1999, p. 4);
- "Work opportunities that encourage creative and reflective skills in the teachers, thus, enabling them to improve their practices" (Bredeson, 2002, p. 663);
- "The professional development of teachers is the professional growth the teacher acquires as a result of his/her experience and systematic analysis of his/her own practice" (Villegas-Reimers, 2003).

As may be observed, both the most recent as well as the most ancient definitions interpret professional teaching development as a *process,* which can be either individual or collective, but which should be contextualised in the teacher's workplace- the school- and contributes to the development of the afore--mentioned professional competencies by means of a variety of formal and informal experiences.

The development of the teaching profession concept has changed over the last decade, as a result of an evolution in the understanding of how the teaching to learn processes are produced. In his review of the professional development of teachers, Villegas-Reimers (2003) shows how this process has recently come to be viewed as being long term and includes different kinds of systematically planned opportunities and experiences, so as to stimulate the professional growth and development of teachers. This has given rise to the emergence of a new perspective that interprets the professional development of teachers as having the following characteristics:

1. It is based on constructivism and not on transmissive models, whereby the teacher is regarded as someone who learns actively while being involved in specific teaching tasks, through evaluation, observation and reflection;
2. It is viewed as a long term process, which acknowledges that teachers learn over time. Thus, experience is considered to be more effective if it allows teachers to link new experiences with former knowledge. In order for this to happen, appropriate monitoring is necessary and indispensable to triggering change;
3. It is assumed as a process which takes place in specific contexts. Unlike traditional training practices, which do not associate training situations with classroom practices, the most effective experiences for professional teacher development are those based on the school and which are connected to the daily activities carried out by teachers;
4. Professional teacher development is directly related to school reform processes, where the latter is viewed as a process that tends to reconstruct school culture and in which teachers are involved as professionals;
5. The teacher is viewed as a reflective practice, someone who is in possession of former knowledge when entering a profession and who continues to acquire more knowledge through reflection on his/her own experience. So, professional development activities consist of helping teachers to construct new theories and new pedagogical practices;

6. Professional development is conceived as a collaborative process, even though it is assumed that there may be room for isolated work and reflection;

7. Professional development can adopt different forms in different contexts. Therefore, there is no single professional development model that is effective and applicable to all schools. Schools and teachers should evaluate their own needs, beliefs and cultural practices in order to decide which professional development model seems more beneficial to them.

Along the same lines Sparks and Hirsh (1997) identified some of the changes produced in the professional development of teachers:

· From professional development geared towards the development of the individual to a type geared towards the development of the organisation;
· From fragmented and disconnected professional development towards a coherent type, working within a framework of clear aims:
· From the organisation of administration--based training to another focusing on the school;
· From a perspective focusing on adult needs to one focusing on the needs of student learning;
· From training developed outside the school to multiple types of professional development carried out within the school premises;
· From the transmission of knowledge and competencies to teachers by specialists, to the study of teaching and learning processes on the part of teachers;
· From professional development geared, primarily, towards teachers to another type geared towards everyone involved in the student learning process;
· From professional development geared towards the teacher, on an individual level, to the creation of learning communities, in which everyone- teachers, students, directors, employees- consider themselves to be both teachers and students.

PROFESSIONAL IDENTITY AND THE TEACHING PROFESSION

Given that we clearly assume professional development to be a process that is constructed as teachers begin to gain experience, knowledge and professional awareness, I would now like to further examine the role that professional identity plays in professional development and in the processes involving the change and improvement of the teaching profession. I consider this reflection necessary since it is through our identity that we perceive ourselves, see ourselves and wish to be seen by others. Professional identity is how teachers define themselves and others. It is a construction of the professional *I*, which evolves over the course of the teaching career and can be influenced by the school, reforms and political contexts, It "involves a personal commitment, availability to learn and teach, beliefs, values, knowledge on the subjects being taught and how they teach them, past experiences, as well as professional vulnerability itself". Professional identities are a "complex web of histories, processes and rituals" (Lasky, 2005).

We have to take the teacher's identity into account as a reality that evolves and is developed in an individual and collective way. Identity is not something one possesses, but, rather, something that is developed over the course of life. Identity is not a fixed attribute belonging to an individual, but a relational phenomenon. Identity development occurs on inter-subjective territory and is characterised as being an evolutional process based on the interpretation of oneself as an individual in a particular setting. Thus, *identity* may be understood as an answer to the question: "Who am I, at this moment?" (Beijaard *et al.*, 2004).

Following revision of recent research, the above--mentioned authors have defined the following characteristics:

1. Professional identity is an evolutional process based on the interpretation and re--interpretation of experiences. It is a perspective which adopts the idea that that the professional development of the teacher is never-ending, thus, making it a life-long learning process. Hence, professional identity is

not constructed as an answer to the question: "Who am I at this moment?", but rather, in answer to the question: "Who do I want to be?"

2. Professional identity depends as much on the person as on the context. Professional identity is not unique. Teachers are expected to behave in a professional way, but not because they adopt prescribed professional characteristics (knowledge and attitudes). Teachers are distinguished from each other according to the importance they attribute to such characteristics, thus, providing a suitable response to the context.

3. The professional identity of teachers is made up of sub-identities that are more or less inter-related. These sub-identities are related to the different contexts in which teachers manoeuvre and should not enter into conflict. Conflict emerges, for example, when educational changes or work conditions emerge. The more important a sub-identity is, the more difficult it is to change it.

4. Professional identity contributes to the perception of self-efficacy, motivation, commitment and satisfaction in the work of the teacher and is an important factor in the making of a good teacher. Identity is influenced by personal, social and cognitive aspects.

At this moment, the concept of professional identity in relation to teachers is subject to revision. From Bolivar's perspective, "changes over the last decades have brought about ambiguities and contradictions in the professional situation of teachers. The crisis in the professional identity of teachers should be interpreted while also creating awareness of a collapse, to a certain extent, of the principles of modernity, which formerly gave meaning to the school system" (2006, p. 13).

These changes are not only related to the teaching profession itself, but also to "a more general framework of social changes that has spread throughout the traditional spaces of sexual, religious, family and work sites" (Bolívar, 2006, p. 25). The local, the global, stability and change are taking on a de-stabilizing role within these transformations when compared with the certainties of societies in earlier periods. The impact of such changes and

new realities, referred to by Bolívar, on our teachers need to be observed.

Any discussion on professional development should take into consideration the meaning of what it is to be a professional and what degree of autonomy such professionals have when carrying out their work. Over the last few years, we have witnessed teachers experiencing stress and a lack of motivation. There are high levels of desertion in a number of countries and great difficulty in recruiting new teachers. Situations where the profession has been worn down, a decrease in status, external interference and an increase in work load have also been identified (Bolam & McMahon, 2004).

PROFESSIONAL DEVELOPMENT AND THE PROCESS OF BECOMING A TEACHER

Being a good teacher is based on a long process. The candidates who arrive at basic teacher education institutions are not empty vessels. Lortie (1975) states in his research that thousands of observation hours as students contribute to the configuration of a system of belief in education, on the part of those aspiring to be teachers and, on the other hand, help them to interpret their own experiences in teacher education. Sometimes these beliefs are so ingrained, that basic training is unable to bring about a profound change in them (Pajares, 1992; Richardson & Placier, 2001).

Basic training has been the object of multiple studies and research (Cochran-Smith & Fries, 2005). In general, there is a high dissatisfaction level, both on the part of political entities as well as the active teaching class with regard to current institutions' ability to accommodate the needs of teachers. Criticism pointing to the fact that they have a bureaucratic organisation in which theory and practice are divorced, excessive fragmentation of the knowledge taught and a fragile link to schools are causing voices to be raised in defence of a reduction in the amount of basic training and increased attention given to the period for the professional insertion of teachers. Conclusions of the OCDE report are in keeping with what we have already mentioned, and specifically state that: "There should be

an interrelation of basic training, insertion and professional development stages, so as to create coherent learning and a system for the development of the teaching profession… By adopting the perspective of life-long learning, most countries are obliged to provide better support for their teachers during the early teaching years and give them incentives and resources for continued professional development. Overall, teacher insertion and life-long professional development would be a much better solution, instead of increasing the period of basic training" (OCDE, 2005, p. 13).

On the contrary, however, it is worth recalling the excellent article written by David Berliner (2000), in which he refutes some of the criticism that is usually directed at basic teacher education (who (teachers) need only have knowledge about the subject matter, that teaching is easy, that teacher trainers live in an ivory tower, that the subjects of Methodology and Didactics are taught very superficially, that there are no valid general principles in education, etc.). From the author's perspective, such criticism is not impartial and reflects a fairly limited vision of the contribution of basic training to teacher performance. Berliner says: "I feel that very little attention has been given to the development of the evolutionary aspects of the teaching to learn process, from the basic training stage up to insertion and continued training" (2000, p. 370). In this process, basic training plays an important role and is not unimportant or replaceable, as some groups and institutions have suggested.

The teachers go through different stages in the learning process. Bransford, Darling-Hammond and LePage (2005) defend that in order to respond to the new and complex situations in which teachers now find themselves, teachers should be regarded as "adaptive experts", or rather, as people who are prepared to embark upon efficient life-long learning. Such is due to the fact that social conditions are constantly changing, and people are increasingly required to know how to combine competency with innovation skills. In this setting, the research that has been carried out has tried to establish differences among teachers on the basis of age, as well as to develop the *expertise* concept. Thus, close examination of such evolution has been carried out from the teacher's first year of experience onwards, with

some exceptional cases. We have also come across studies that try to understand the expert conversion process, such as research that analyses what is being done and the characteristics of an expert teacher. The contrast between expert teachers and newly-qualified teachers stands out in the analysis of these studies. It is also important to underline that when we refer to expert teachers, we are not talking about just one teacher with at least 5 years experience, but also to individuals with "a high level of knowledge and dexterity, things that are not acquired naturally, but which require special, constant dedication" (Bereiter & Scardamalia, 1986, p. 10). So, it is not with the mere passing of years that the expert teacher gains professional competency. As Berliner points out, it is not totally guaranteed that experience alone will produce the best teachers. If one does not reflect on conduct, the thinking and action of an expert will never be attained (Berliner, 1986).

According to Bereiter and Scardamalia, experts — in any area — have the following characteristics in common: competency complexity, in other words, the action of the expert is based on a different and more complex structure than that of the novice, and exercises voluntary and strategic control over parts of the process which is developed in a more automatic way in the case of novices. Secondly, the expert has a broad variety of knowledge, when compared with the novice. Thirdly, they draw attention to the actual knowledge structure. As far as Bereiter and Scardamalia are concerned, "novices tend to have what may be described as, a 'superficial' knowledge structure, some general ideas and some details related to this general idea, but not interrelated. Conversely, experts have multi-levelled profound knowledge, with many inter and intra connections" (1986, p. 12). The latter characteristic, which distinguishes the expert from the novice, is the representation of the problem: the expert falls back on an abstract structure of the problem and uses a broad range of problem-types stored in his/her memory. Novices, however, allow themselves to be influenced by the specific content of the problem, which means they encounter difficulties in representing it in an abstract way (Marcelo, 1999).

Finally, to back up what has already been mentioned, Bereiter and Scardamalia (1993) make a

distinction between *crystallised expertise and fluid expertise. Crystallised expertise* consists of developing procedures that have been learned through experience and are used to appropriately resolve tasks. *Fluid expertise* consists of skills that emerge when the expert is confronted with new, challenging situations. This *fluid,* or adaptive *expertise* is developed throughout the life course and increases as new situations are encountered.

So, we know that expert teachers recognise and identify characteristics of problems and situations that may escape the attention of the novices. Expert knowledge is far more than a list of detached facts about a specific subject. Indeed, such knowledge is interrelated and organised around important ideas regarding the expert's subjects. This organisation of knowledge helps experts to understand when, why and how the vast knowledge they possess should be used in a given situation.

Bransford, Derry, Berliner and Hammerness (2005) pointed out the need to establish a difference between the "routine expert" and the "adaptive expert". They are both experts who learn over the life course. The routine expert develops a set of skills which he/she applies throughout life with increasing efficiency. On the other hand, the adaptive expert has more availability to transform his/her skills, to further them and continuously broaden them. In my opinion, these authors defend a very interesting idea if it is our aim to understand the professional insertion process and, consequently, plan teacher education courses for novices.
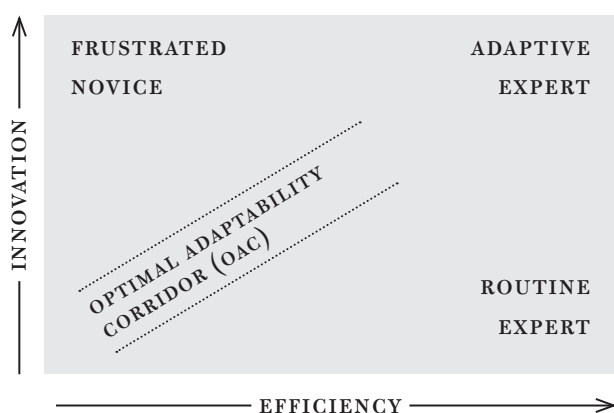
So, they advocate that there are two important dimensions in the expert teacher conversion process:

innovation and efficiency. Developing only one dimension may not support the development of adaptive skills. Research has shown that people who benefit most from learning opportunities are those who articulate both dimensions and put themselves in the optimal adaptability corridor. There are already a number of programs that are adopting the idea of *adaptive expert* as a professional development standard.

PROFESSIONAL DEVELOPMENT AND PROCESSES OF CHANGE IN TEACHERS

As already mentioned, professional development and change processes are intrinsically connected variables. Professional development sets out to promote change in teachers, so that they may grow as professionals — and also as individuals. A large amount of research has focused on trying to understand how, exactly, these changes and developments are constructed as learning. In the study of change processes, emphasis is given to the prejudice and beliefs of teachers. In teacher education, special attention has been given to the analysis of the beliefs training teachers bring with them when they start out on their professional career. Beliefs are taken to mean propositions and premises people have regarding what they consider to be true. Unlike propositional knowledge, beliefs do not require a refutable truth condition and perform two roles in the teaching to learn process. First of all, beliefs influence the way teachers learn and, secondly, influence the change processes that teachers can undertake (Richardson, 1996).

The literature resulting from the research on teaching and learning has identified three categories of experience that have an impact on the beliefs and knowledge teachers have regarding the teaching activity:

· Personal experiences: they include aspects of life that conform with a particular vision of the world, beliefs in relation to oneself and to others, ideas on the relationship between the school and society, as well as family and culture. Socioeconomic and ethnic origin, as well as gender and religion can affect beliefs on how teaching is learned.

- Experience based on formal knowledge: formal knowledge, taken to be that which is developed at school- beliefs in relation to the subjects that are taught and how they should be taught.
- School and classroom experience: it includes all student experiences, which contribute to forming an idea about what teaching is and what the work of the teacher involves.

One of the most publicised discoveries is that the beliefs teachers bring with them when they are performing professional development activities, directly affect the interpretation and importance teachers attach to their teacher education experiences. This *teaching to learn* modality is accomplished through *observational learning* (Lortie, 1975). Learning that is not always created intentionally, but which, unconsciously, internalises the cognitive and emotional structures of future teachers, manages to create expectations and beliefs that are difficult to get rid of.

Even though knowledge beliefs are often rather confused in some pieces of research, such phenomena should be differentiated. Knowledge is often described as being based on proof, as dynamic, without emotional influences, internally structured and which develops with age and experience. Conceptual knowledge is used to resolve problems. The quantity, organisation and accessibility of conceptual knowledge separate the experts from the novices. On the contrary, beliefs are often described as statistics, attached to emotions, organised in systems and are not backed by proof. Beliefs have affective and valorising functions, acting as a filter of information that influences how knowledge is used, stored and recovered. However, some conduct types are foreseen (Gess-Newsome, 2003, p. 55).

The research that has been carried out on belief systems has been of great importance, since it has offered explanations for why many professional development actions have not had a real impact on changes in teaching practices and, even less on student learning. So, if the professional development of teachers is to be made easier, we should understand the process according to which, teachers grow professionally, as well as the conditions that contribute to and encourage such growth.

The implicit model in most professional development programs may be observed in the stages of the following figure. Professional development sets out to bring about change in the beliefs and knowledge of teachers. By the same token, the change in knowledge and beliefs gives rise to a change of teaching practices in the classroom and, consequently, probable improvement in the results of student learning. However, as demonstrated by Guskey and Sparks (2002), the processes do not function in this same way. From the perspective of the authors, teachers change their beliefs, not as a result of their participation in professional development activities, but rather, through discovering, in practice, the use and feasibility of these new practices that are expected to be developed. A change in beliefs is a slow process which should be supported by the perception that the important aspects of the teaching activity will not be distorted by the introduction of new methodologies or pedagogical procedures.

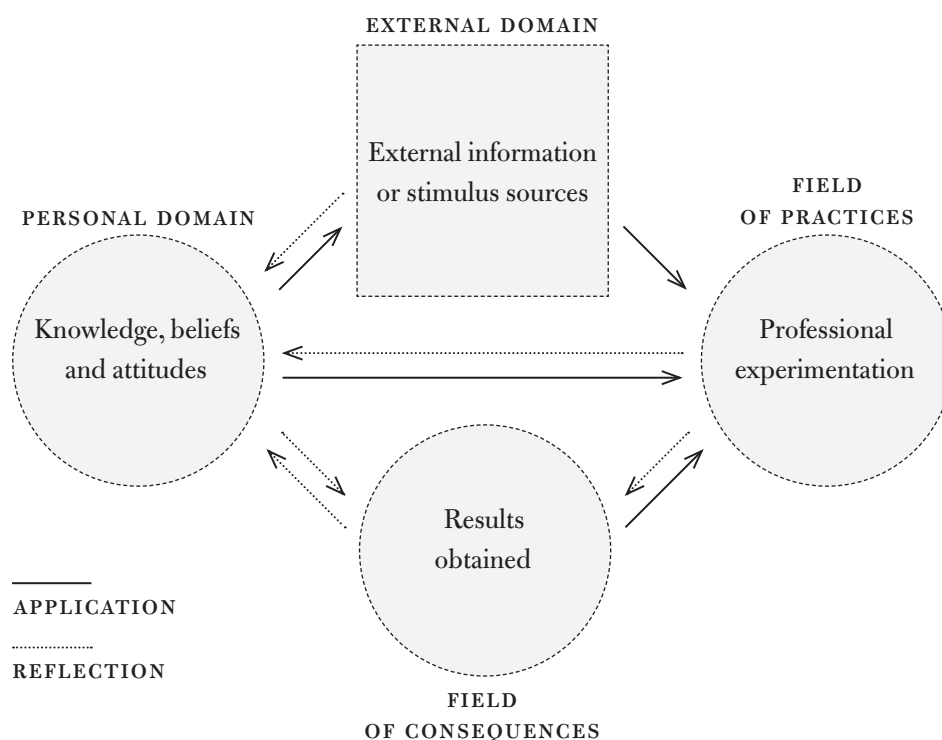THE IMPLICIT MODEL IN THE PROFESSIONAL DEVELOPMENT OF TEACHERS
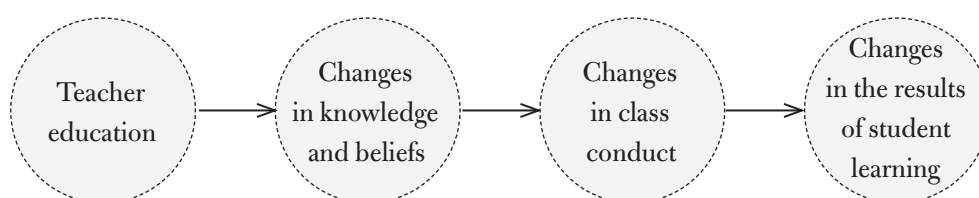
TEACHER CHANGING PROCESS MODEL OF GUSKEY
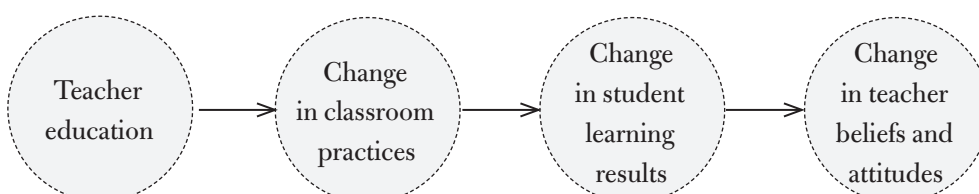
Clarke and Hollinsworth have criticised earlier models for being linear and not representing the complexity of the teacher learning processes in professional development programs. They propose a new model that is not linear but interrelated. According to this model, change occurs through the mediation of application and reflection processes on four levels: the personal domain (teacher knowledge, beliefs and attitudes), the field of teaching practices, the consequences in student learning and the external domain. These authors defend that professional development is produced as much by teacher reflection, as by the application of new procedures (clearly reflection does not always lead to learning).

INTER-RELATIONAL PROFESSIONAL DEVELOPMENT MODEL (CLARKE & HOLLINGSWORTH, 2002)

EXTERNAL DOMAIN

External information
or stimulus sources

FIELD
OF PRACTICES

PERSONAL DOMAIN

Knowledge, beliefs
and attitudes

Professional
experimentation

Results
obtained

APPLICATION

REFLECTION

FIELD
OF CONSEQUENCES

PROFESSIONAL DEVELOPMENT
CONTENT

What is at the centre of professional development? What subject matter and content does it include? This is an unavoidable question when addressing the professional development of teachers. Basically, this question leads to others: what do teachers know and what should they know? What knowledge is important for the teaching profession and professional development? How is such knowledge acquired?

Cochran-Smith and Lytle (1999) have distinguished this type of knowledge — teaching knowledge — taking into account the origin, process and role of teachers in the production process of this very knowledge. Thus, differences have been established among:

· Knowledge *for* practice: in this initial conception, the relationship between knowledge and practice is regarded as being that in which knowledge serves to organise practice and, so, more learning (content, educational theories, instructional strategies) leads, fairly directly, to more efficient practice. Knowledge for teaching is formal knowledge which stems from university research. It is the knowledge referred to when theorists say that teaching creates a

knowledge corpus that differs from common knowledge. From this perspective, practice has a lot to do with the application of formal knowledge to practical teaching situations.

· Knowledge *in* practice: the emphasis of research on learning to teach has been placed on the search for knowledge in action. It is believed that what teachers know is implicit in the practise, reflection on practise and in the study and narrative of this practice. An assumption of this perspective results from the conviction that teaching is a spontaneous, contextualised activity surrounded by uncertainty and constructed to accommodate the particularities of every day school and classroom life. Knowledge derives from action, decisions and judgements that teachers adopt. This type of knowledge is acquired through experience and deliberation, whereby teachers learn when they have the opportunity to reflect on what they do.

· Knowledge *of* the practice: this final trend is covered by the qualitative research study line, which is closest to the movement entitled "the teacher as researcher". It stems from the idea that it does not make sense to distinguish between formal and practical knowledge in teaching, but that knowledge is constructed collectively within local communities, made up of teachers who are involved in projects for the development of schools, training or collaborative research (Cochran-Smith & Lytle, 1999).

Grossman's (1990) contribution is one that is still used in order to understand teacher knowledge. Morine-Dershimer and Kent (2003) have altered the model put forward by Grossman, to include the results of more recent research. In his model, the knowledge of teachers includes the following aspects:

CATEGORIES THAT CONTRIBUTE TO PEDAGOGICAL CONTENT KNOWLEDGE (MORINE-DERSHIMER, 2003).
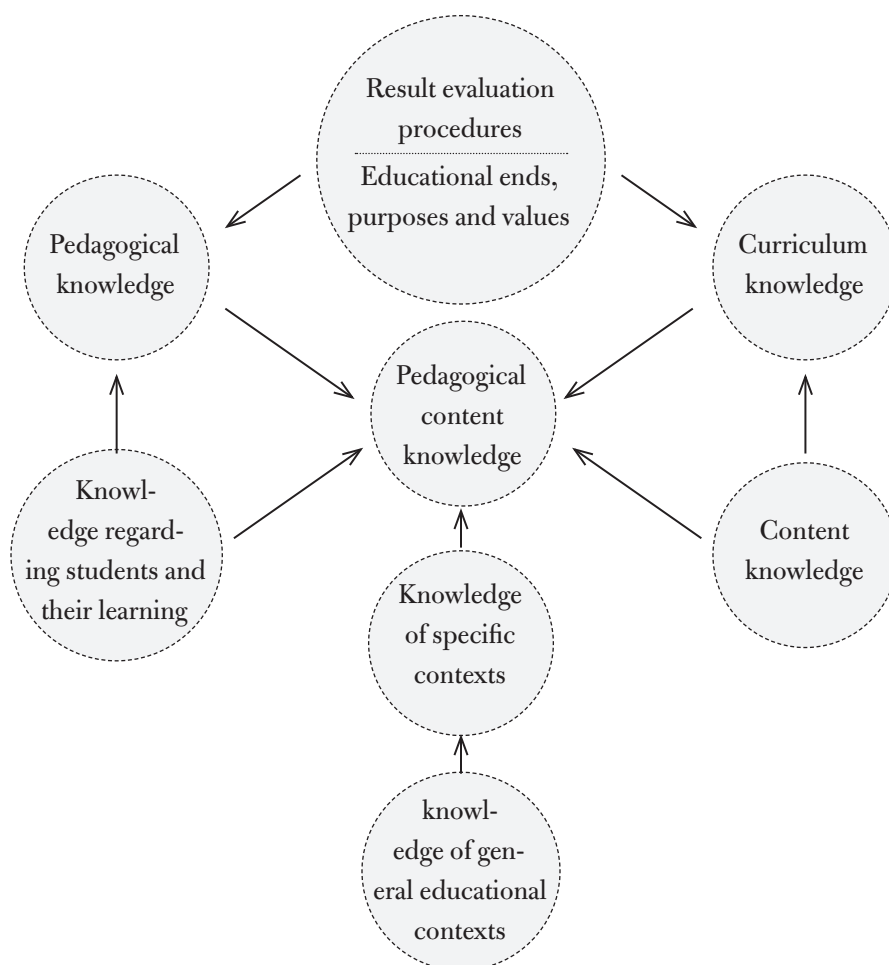
First of all, it draws attention to the fact that teachers should be in possession of general pedagogical knowledge related to teaching, with its general principles, learning and students, as well as the academic learning period, waiting period, the teaching of small groups, class management, etc. It also includes knowledge of pedagogical techniques, class structures, teaching plans, human development theories, curriculum planning processes, evaluation, social culture and influences of context on teaching, the history and philosophy of education, legal aspects of education, etc.

In addition to pedagogical knowledge, teachers ought to be in possession of knowledge on the subjects they are teaching. Understanding and fluently controlling the subject we are teaching is indispensable to the teaching task. With regard to this aspect, Buchmann says that "having knowledge of something enables us to teach it; knowing content in detail means that, in general, one is mentally organised and well prepared for teaching it" (1984, p. 37). When the teacher does not have sufficient knowledge about the structure of the subject being taught, he/she may convey the content to the students incorrectly. The knowledge teachers possess of the content being taught also influences *what and how* they teach it.

Pedagogical Content Knowledge has emerged as one of the main aspects of the teacher's knowledge. It represents a suitable combination of knowledge on the subject to be taught and the corresponding pedagogical knowledge required to do so. Over recent years, work has been done in different educational contexts with a view to clarifying what the aspects of this type of professional teaching knowledge are. As a research line, Pedagogical Content Knowledge represents the confluence of efforts on the part of researchers in the area of Didactics with researchers of specific matters related to teacher education. Pedagogical Content Knowledge leads us to a debate on the type of organisation and representation of knowledge, using analogies and metaphors. It raises the need for training teachers to acquire expert knowledge of the content they will teach, so that they can offer teaching that will lead to understanding on the part of the students.

CONCLUSION

The professional development of teachers is a very broad and diverse field of knowledge. However, we have tried to highlight some of its general ideas. A more in-depth study would require a more detailed examination of the different content and processes which lead teachers to learn to teach. There is no single answer to this question, however, whatever approach is adopted, it must be understood that the teaching profession and its development are fundamental and crucial to guaranteeing quality in student learning.

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