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ABSTRACT

In this paper a conceptual framework is presented which describes the various dimensions and factors that constitute the processes of a beginning teacher's professional development during preservice and the induction period. The frame in question is based on data resulting from earlier research and on a broad study of recent literature. The model contains three dimensions: the personal dimension, which comprises issues that relate to a teacher's development as a person; the knowledge and skills dimension, which comprises issues that relate to the development of a teacher's content knowledge and professional knowledge and skills; and the ecological dimension, which comprises issues that relate to the environment in which teacher development is taking place. The personal dimension covers issues such as becoming mature, emotions, the development of knowledge about self, and the use of oneself as an instrument. The knowledge and skills dimension covers elements such as the development of academic and pedagogical content knowledge, the development of classroom management skills. and the development of pedagogical and teaching skills. The ecological dimension comprises all the issues that are related to the socialization of teachers in a certain school context, e.g., adaptation to a certain school culture, meeting the demands of colleagues, school administrators, parents and the like. The content of each of the issues is illustrated with data gained from research. The last section briefly discusses some implications for supervisory interventions. (Contains 40 references.) (Author/ND)

Conceptualizing novice teachers' professional development

A base for supervisory interventions

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Summary

In this paper we present a conceptual framework which describes the various dimensions and factors that constitute the processes of a beginning teacher's professional development during pre-service and the induction period. The frame in question, is based on data resulting from our own research on which we reported at an earlier stage, and on a broad study of recent literature. The model contains three dimensions: the personal dimension, which comprises issues that relate to a teacher's development as a person; the knowledge and skills dimension, which comprises issues that relate to the development of a teacher's content knowledge and professional knowledge and skills; and finally, the ecological dimension, which comprises issues that relate to the environment in which teacher development is taking place. The personal dimension covers issues such as: becoming mature, emotions, the development of knowledge about the self, and the use of oneself as an instrument; the knowledge and skills dimension covers elements such as: the development of academic and pedagogical content knowledge, the development of classroom management skills, the development of pedagogical and teaching skills; the ecological dimension comprises all the issues that are related to the socialization of teachers in a certain school context, e.g. adaptation to a certain school culture, meeting the demands of colleagues, school administrators, parents and the like. The content of each of the issues will be illustrated with data we gained from our research. The last section will briefly discuss some implications for supervisory interventions.

1. Introduction

In the last decade the pursuit of the improvement of the quality of education and of teaching has led to intense attention for the pre- and in-service education and training of teachers in particular in the US and Western Europe. In the field of teacher education the content, methods, and the structure and nature of teaching practice have become object of intense study, especially in view of the so-called theory-practice gap. Connected with this, the induction of teachers into the profession (first years of teaching) has once more gained attention as well. In both fields the development of the (student/beginning) teacher (BT) from undergraduate to starting professional has become the focal point. Related to this, the processes of 'becoming-a-teacher' and 'learning-to-teach' have been widely researched during the last decade. Nevertheless, the most crucial problems in those processes have not yet been adequately solved: many novice teachers still experience their first year of service as problematic and stressful. They are confronted with unexpected problems and situations with which they find it difficult to cope.[1] Many beginners experience their first year of teaching as a 'reality shock'. Recently a number of reviews of studies on these issues have appeared (Kagan, 1992; Grossman, 1992; Reynolds, 1992). Apart from that, a number of books have appeared on mentoring teachers during both initial training and induction (DeBolt, 1992; Vonk, 1992; Wilkin, 1992; Caldwell, 1993; McIntyre *et al*, 1993; Tomlinson, 1995; Kerry & Shelton Maynes, 1995). The latter all aim at developing strategies and procedures to support beginning teachers while 'learning- to-teach'. In our studies we do not consider learning-to-teach primarily as a technical activity (the teacher as a technician) but rather as a developmental process in which the BT as a person is involved (becoming-a-teacher) and in which the technical elements have their place.

In this presentation we will give a conceptual framework for the further study of beginning teachers' professional development. This framework is based on our research on BTs' professional development and on mentoring BTs during induction. A theory or conceptual framework of the process of 'becoming-a-teacher' has to provide adequate tools to describe and explain the essential elements of this process. The presentation falls into three parts, *a*. the view on teacher professional development which underlies our studies; *b*. the presentation of the model; *c*. implications for supervising and/or mentoring BTs.

2. Beginning teachers' professional development, the concept

We regard 'becoming-a-teacher' as the first step in the lifelong process of a teacher's professional development. In this section we will illuminate the concept of professional development as we have used it in our research.

Teachers' initial education and training and their induction into the profession cannot be considered in isolation from the teaching career as a coherent whole. During that career changes in thinking and acting with regard to their practicing of their profession are obvious (Levine, 1989, Fessler & Christensen, 1992; Huberman, 1993; Kremer-Hayon *et al.*, 1993).

1 See for an overview of the problems experienced by beginning teachers: Veenman, 1984; Vonk, 1984; Ryan, 1986.

These changes are both qualitative and quantitative in nature. We talk about professional development when these changes are in a positive direction, i.e. geared up to optimalize one's repertoire, to increase one's understanding of oneself as a teacher and of students and their learning.

In the literature there is a variety of paradigms with respect to teacher professional development, ranging from a merely technical interpretation on one end of the continuum to the purely ecological interpretation of professional development at the other end. In the technical paradigm teaching is regarded as an individually centred, culturally neutral technical action in which language is the main instrument for the transmission of knowledge. Professional development is valued in terms of increase in research validated knowledge and skills.[2] The ecological paradigm, mainly based 'on teacher life history studies, suggests that each teacher, inextricably connected to their personality and prior life experiences, represents a unique ecological system of pedagogical beliefs and practices' (Kagan, 1992, p.156). In this context professional development is regarded as individual development being embedded in social, cultural, as well as practical interchanges between the individual teacher and the environment. Teacher professional development is not considered to be the result of a spontaneous process, but the outcome of a complex learning process that is based on continuous reflection on one's everyday experiences in a given context (Calderhead, 1988; McIntyre, 1993) - i.e. the school (Fullan, 1991, p. 315). In other words, the learning is not one-dimensional - aimed at socializing the beginning teacher - but based on the interaction between the individual teacher and the various environments - personal and professional - in which he/she participates (Vonk, 1991, p. 64). Although the term development connotes internally guided rather than externally imposed changes, we define professional development as the outcome of an ongoing experiential learning process, in a given context, directed at acquiring a coherent whole of knowledge, insights, attitudes, and a repertoire of actions a teacher needs as basis for his/her everyday practicing of the profession.[3] As a consequence, 'much of teacher development will be based on learning-on-the-job (craft knowledge) and therefore, much of teacher craft knowledge is tacit, i.e. knowhow gained through experience and not usually articulated' (Pope, 1993, p. 25). Craft knowledge is, however, integrated into the totality of a teacher's professional knowledge. Tom (1984) argued that 'the distinction between beginning teachers and craftsmen teachers lies in the ability of the latter to analyze teaching situations and in the procession of a broad repertoire of teaching strategies' (p. 101).

In view of BTs' professional learning process, meaningful learning from experience will only take place when a beginner reflects on those experiences; i.e. analyzes and understands teaching situations and so develops a feeling about what actions are effective in these situations and why some actions are effective and others not. 'Theory'[4], in this context, offers a proper framework for this reflection on practice. Stones (1992) refers to the

2 A good example of this way of thought is the book by Reynolds (1989), *The knowledge base of the beginning teacher*.

3 Lortie (1975) describes teachers' work as a 'craft', which he defines as: '... work in which experience improves performance - the job cannot [...] be fully learned in weeks or even in months' (p. 266, note 2). Craft is an occupational technique which can be taught.

4 Valuable theory exists of 'bodies of principles that have explanatory power and the potential of guiding teacher action' (Stones p.14).

dialectic of theory and practice as he says: 'Teachers examine their own practices in the light of pedagogical principles and evaluate the value of the principles to their teaching. In fact, the theory and the practice are best conceived of as two aspects of the same process, so that it might equally be said that practice is also tested in the light of theory. The two are mutually refining' (p. 15). In Vonk (1994a) a model of the process of learning from experiences is described.

3. The conceptual framework

Teacher professional developmental process falls into a number of phases[5]: i.e. the pre-professional phase, the threshold phase, the phase of growing into the profession, the first professional phase, the phase of reorientation towards oneself and the profession, the second professional phase and finally the phase of winding down. (Vonk, 1991, 1995). For this presentation only the pre-professional phase (initial training) and the threshold phase (first year of service) are relevant. These two phases in a teacher's career mark the transition from 'student' to 'teacher'. The pre-professional phase is characterized by the acquisition of a 'starting competency' (Reynolds, 1989; Reynolds, 1992), while the threshold phase is characterized by teachers' change in perspective of the teacher role: i.e. from a student's perspective to a teacher's perspective.

Kagan (1992) argues that pre-service and the first year of teaching appear to constitute a single developmental stage in a teacher's career during which a novice has to accomplish three primary tasks: *a.* acquire knowledge of pupils; *b.* use that knowledge to modify and reconstruct their personal images of self-as-teacher; *c.* develop standard procedural routines that integrate classroom management and instruction (p. 150). Based on her review she develops a model of professional growth among beginning teachers in which the technical elements are dominant. She argues that beginning teachers need to focus first on acquiring classroom management and instructional routines (a technical orientation to teaching) before they are able to reflect on more ethical issues or content related dimensions in teaching. Grossman (1992) criticizes the selection of studies reviewed by Kagan as well as the model she has developed. Grossman concludes that

> If [prospective] beginning teachers are to meet the [broad range of] challenges [they are confronted with], they will need to struggle simultaneously with issues of management, social roles and routines in classrooms, instruction, and learning (p.175).

Based on our research of problems of beginning teachers (Vonk, 1984; Vonk & Schras, 1987, Vonk, 1992) we reached a similar conclusion. In both reviews, however, we missed the personal element in the process of becoming-a-teacher. In our view on teacher professional development we perceive classroom teaching as 'a peculiar form of self-expression in which the artist, the subject, and the medium are one' (Kagan, p. 164). In previous publications (e.g. Vonk, 1995) we argued:

5 *Phase* is a rounded period of time in someone's career which is identifiable by characteristics for that period.

> What makes the teaching profession so special? If we look closely at the act of teaching, it is easy to observe that when teaching, a teacher uses him/herself as an instrument. As a consequence, the act of teaching surpasses the simple outward technical activity; also the teacher as a person is strongly involved in the act of teaching.

We agree with Cohen (1991) when he states that teaching styles seem 'to have developed not out of any self-conscious attempt to *apply* learned principles of pedagogy but out of individual relationships with the subjects they love [...] . Teaching style in short is a natural outgrowth of personality and predilection' (p. 99). This means that every teacher over a period of time develops his/her own repertoire and teaching style, which are carefully crafted according to individual styles and temperaments. Consequently, in this view the value of scientific knowledge about teaching and teaching procedures is relativistic and dependent on context. Scientific knowledge is regarded as a framework for reflection rather than to straightforwardly direct practice.

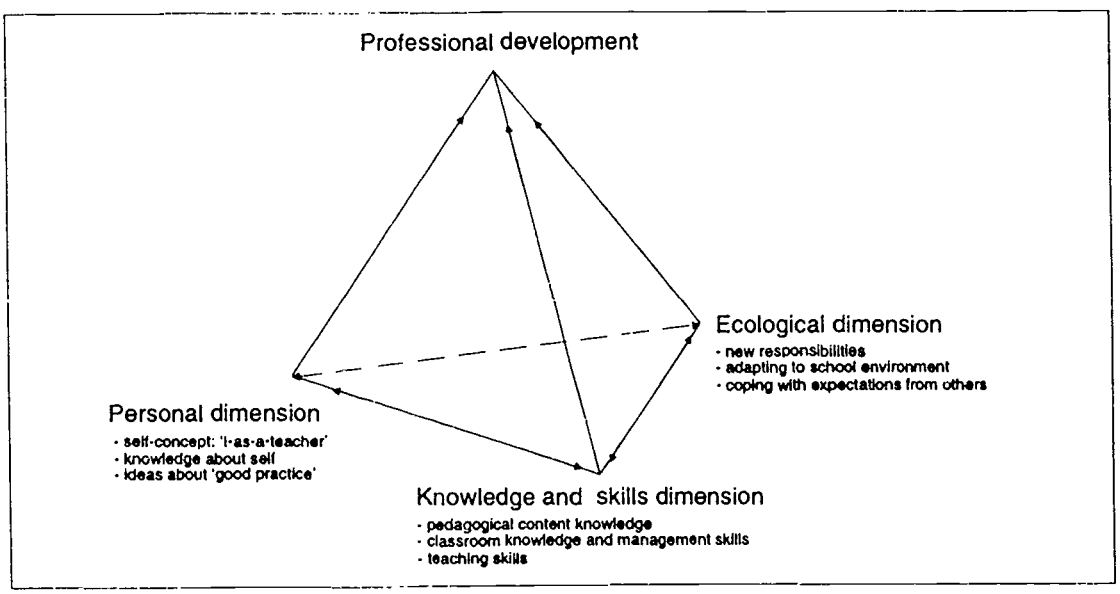

Figure 1
Dimensions in the professional development of beginning teachers

As a result of our investigations into the nature and origins of problems of beginning teachers and into strategies to mentor beginners, we distinguish three dimensions which underlie the developmental process of beginning teachers: *i.* the personal dimension, which relates to the development of a beginner's self-concept - I-as-a-teacher; *ii.* the professional knowledge and skills dimension, which refers to the development of a beginner's mastery of subject content, instructional and classroom management skills; and *iii.* the ecological dimension, referring to the socialization process of beginners. Beginning teachers' professional development is the result of simultaneous changes in all three dimensions. Figure 1

visualizes the model we developed. In the following section we will discuss these dimensions.

The personal dimension

An important issue for beginning teachers is their change of the image of themselves. Hormuth (1990) argues that a person's understanding of self is acquired and developed through social experience. He defines the constituents of the self, i.e. environments, and things that provide, mediate and perpetuate social experience as the *ecology of the self.* The self can be described as 'the internal organization of external roles of conduct, e.g. in the prescription of roles that can be used to form one's own course of action' (p. 2). 'The self-concept exists in interdependence with its ecology of others, objects, and environments. As long as the ecology of the self is stable, the self-concept will be stable and strive toward maintenance. Self-concept change results from an imbalance in the ecology of the self that leads toward restabilization under different ecological conditions, a restructuring of the ecology of the self' (p. 3). In the case of beginning teachers, the termination of a central social commitment, i.e. being a student teacher, destabilizes the social system, and opens the way for changing their self-concept.

Several problems that were identified in our studies on the professional development of beginning teachers can be attributed to the process of change in self-concept. First-year teachers are confronted with the inappropriateness of their concept of *I-as-a-teacher.* That concept does not change much during initial training and is highly determined by the beliefs and images resulting from previous experiences they had as students (Calderhead & Robson (1991), Wubbels (1992)). As long as a novice is student-teacher, he/she perceives her/himself as a student, as a learner, as someone who is not ultimately responsible for what happens in the classroom. Consequently, student-teachers still have a students' image of the teacher role and behave accordingly. This image is intensely challenged during the first year of teaching. In relation to this dimension, we identified in our research the following clusters of problems:

1. The transition from the student role to the teacher's role, i.e. from being cared for to be appointed to care for.
   - At the start of their careers most beginners identify with their students rather than with the teacher role.
   - They reported to like to be part of the class as a group, instead of being a responsible leader of the group.
   - They reported not to like the role of controlling and monitoring students' learning processes; they did not like to see themselves as *a policeman.*
2. Connected with the previous cluster, beginners have to reconsider their idea about 'good practice'. Most beginners start with a perception of good practice based on their own experiences as a learner, instead of a teacher perspective.
   - They reported to expect that their students would be attracted by the subject in the same way as they are themselves.

- They reported to expect to get a group of about thirty self-responsible students who are both able and willing to learn.

3. Beginners have to reconsider the image of self. During the first months of service most beginners have existential experiences from which they learn a lot about that part of self that was unknown to them, such as:
   - The confrontation with situations in which they seem to loose control over the class; they report to be surprised how they behave under these conditions.
   - The confrontation with their own emotions and those of their students; they reported it difficult to deal with these emotions.
4. How to cope with all the 'new' teacher responsibilities: for the learning of their students, towards their college's, parents, and the school management. Many beginners on the one hand enjoy these responsibilities, they feel recognized in the teacher role, but, on the other hand, they reported to be insecure about how to deal effectively with those responsibilities. They were not used to handling so many responsibilities.

All in all, in particular for younger beginning teachers, the first year of service most often also means the transition from adolescence to adulthood, i.e. growing to maturity under high pressure.

The ecological dimension

As argued before, beginning teachers develop professionally in a specific school context. They have to adapt to an existing school or departmental culture, and to the beliefs that exist in that school/department about the aims of education and 'good professional practice', i.e. appropriate teacher performance, teacher-student relationships and the like. If we take a closer look at the situation of beginning teachers in schools, it can be characterized by as a confrontation with:

1. *New responsibilities*: from the first day and the first lesson on, beginners are responsible for the classes they teach. These responsibilities are exactly the same as those of teachers who have been teaching for twenty years. In each school different sets of rules with respect to meeting these responsibilities are valid. They concern for example:
   - The ways teachers flesh out their responsibility for student engagement in learning activities and the progress made.
   - Acting as class teacher and in that context being involved in student guidance.
   - How to deal with parents, in particular with the meddlesome ones, or the know-alls.
2. *A school environment in which various teaching cultures exist*: each school, each department has its written and unwritten rules, and one is supposed to adhere to these rules (Hargreaves, 1992). BTs are not familiar with either the written or the unwritten rules of the game in their new schools, they usually discover them by painful surprise.
   - Departments have their teaching traditions and students are used to them. When a new teacher introduces new methods, students do not know how to cope with them. From the student questionnaire we learned that students mostly do not interpret new

methods as a challenge but as something confusing: students have to be taught to learn under the new conditions. As a consequence, many beginners decide to adapt to the existing methods.

3. *Expectations concerning the way in which one functions*: colleagues, school management, students and parents, they all have their expectations about the new teacher. The problem, however, is that most beginners do not have the slightest idea about what these expectations are, and if they do, they do not know how to cope.

The above mentioned confrontations compel a beginner to *reframe* his/her concept of '*I-as-a-teacher*'. As a result of the environmental pressure to adapt, many BTs experience that the knowledge and skills already gained - what worked well during initial training - do not always work in the new school environment. That process of adaptation is often indicated as teacher socialization (Lacey, 1977).[6] BTs must learn how to handle their new responsibilities, how to behave as a teacher and how to attune their perceptions about 'good professional practice' to the reality of the school in which they operate, and to keep them in harmony with their own personalities. In particular in situations in which BTs do not receive any support, they experience the first months of their induction rather as a *rite of passage* than a valuable learning experience.

Although the process of adaptation to the new school environment is interactive in its nature, we found three major adaptation strategies (Vonk, 1984). First, those teachers who felt familiar with the existing school/departmental culture simply *adopted* that culture. A second group of teachers *adapted strategically* to the culture of the school/department, because they felt they first had to show their colleagues and students they were able to function in the existing culture before changing their teaching approach. The last group did not agree with the existing culture and decided to *follow their own pace*. The members of the last group only survived if they had considerable frustration tolerance. Practice shows that, no matter how well novice teachers have been prepared for the transition from initial training to real practice, crisis situations nearly always arise.

Professional knowledge and skills dimension

The professional knowledge and skills a beginning teacher has to develop concern three sub-dimensions: pedagogical content knowledge, classroom management skills and teaching skills. The first two cannot be separated from learning and instruction as proposed by Kagan (1992, p. 162). Beginning teachers tend to attribute their inability to foster student-learning to a lack of classroom management skills. Here, amongst other things, their pre-conceptions of 'good practice' play a dominant role. From our research we learned that the knowledge and skills in these fields develop simultaneously.

6 For an overview of literature on 'teacher socialization', see: Zeichner & Gore (1990).

Pedagogical content knowledge

Many beginners have to spend considerable time on re-learning the subject matter during their first two years of service. Although they may have an elaborate academic background, they meet unexpected problems in translating their academic knowledge into school knowledge,[7] and, therefore, have to *reframe* their subject knowledge base. Brown & McIntyre (1993) argue that 'pedagogical content knowledge is the distinctive kind of knowledge which teachers need in order to transform content knowledge to make it interesting and comprehensible to those they are teaching' (p. 7). To gain deeper insight into this process we made use of a publication by Shulman (1986), in which the problem of the development of a teacher's knowledge base was approached. If we take a closer look at experienced teachers' professional knowledge, we see that they draw on sources of knowledge which can be identified as: academic content knowledge, pedagogical content knowledge, knowledge of aims and purposes, knowledge of learners, and knowledge of educational contexts, settings and governance. Shulman (1986) suggests that these sources of understanding, of which teachers' pedagogical content knowledge is the most important element, make the process of pedagogical reasoning and action possible. We found a practicable analysis of the concept of pedagogical content knowledge in Gudmundsdottir & Shulman (1987), which we will elaborate here. They state that pedagogical content knowledge comes from three sources:

(i) The *discipline perspective*: this is based on a breadth and depth of content knowledge, i.e., understanding the organization of concepts and principles in the discipline (basic to the subject matter to be taught) and the strategies the discipline uses to discover new knowledge as well as the development of strategies and materials to enable learners to understand those concepts and processes. From our research we learned that many BTs do not fully master the content knowledge as described above. Although they have finished their studies successfully, they have not yet come to grips with the subject matter in a 'teacher's way'. They reported:

- I have no overview of the subject I teach.
- While preparing a lesson I sometimes discover that I really do not understand the ins and outs of certain concepts.
- During my academic studies some topics I need for school now have not been treated at all.

(ii) The *student perspective*: this concerns a rich factual knowledge base with many interconnections, such as the knowledge of analogies, similes, examples and metaphors through which to explain the subject matter to the students, as well as knowledge of students' pre-conceptions, experiences in everyday life, and difficulties that are commonly experienced by students, and which may help teachers to communicate effectively with their pupils. In this field the main problems reported by BTs are:

- To get familiar with what is going on in their students' minds: what ideas they have, what they experience as difficult and what not, what they already know and what not, what their level of mastery is, and so on.
- To translate disciplinary knowledge into school knowledge.

7 For a detailed overview of problems on this issue as reported by novices, see Vonk (1984), pp. 110-112.

(iii) The *general methodology perspective*: this concerns knowledge of the different ways topics can be taught and the pros and cons of each approach, which is also an essential part of teachers' pedagogical content knowledge. However, BTs' repertoire is rather limited. Because of that, they tend to repeat in other classes what worked well in one class. Apart from this, another important problem is that BTs are not able to observe differences between classes. During their first weeks of service they reported:

- I am so involved with 'what to teach' that I do not even notice individual students, except the extremely noisy ones.
- For me the class is a noisy mass that is difficult to handle.
- After three lessons I came to the conclusion that the majority of students has not understood what I taught.

Related to general methodologies and in particular with respect to students' learning processes, we agree with Stones (1992) where he argues that in order to extend one's professional repertoire, it is conditional to consult during reflection the knowledge and insights provided by school learning psychology.

All in all, pedagogical content knowledge represents a much more thorough understanding of the subject matter than one achieves purely as a learner. In spite of all initial training a BT's pedagogical content knowledge is fragmentary. They lack the breadth and depth in subject knowledge, they do not fully master the content knowledge at school or student level, and finally, they lack knowledge of and insight into the various ways in which a specific topic can be taught. The refinement of this type of knowledge, however, can only be learned by doing.

Classroom management skills

Research shows that most BTs have poor classroom management skills, i.e., they are not able to organize their lessons in such a way that an *on-task* working climate emerges and can be maintained effectively. They have problems with reacting adequately to unrest and discipline problems, because they have no overview of what is happening in the classroom and lack an adequate set of classroom rules and, if they have established such a set, they do not know how to maintain it, and finally, they do not know how to deal effectively with those who break these rules. All in all, they lack the procedural knowledge and skills which combine management and instruction necessary

- to develop heuristics to create a 'working climate' in their classes,
- to comprehend the function of rules, how to establish and maintain these, and how to correct students who do not follow the rules and disturb the working climate.

A major cause of BTs' problems is that they are not familiar with the complexity of the classroom in which they have to work: i.e. the ecology of the classroom (Doyle, 1979): a single teacher is brought together with twenty-five to thirty students in one room, and that group is expected to be engaged in learning activities that will lead to externally imposed objectives as they are laid down in the curriculum. The classroom environment is characterized by: multi-dimensionality, simultaneity, immediacy, unpredictability, publicness and history (Doyle, 1986). For the beginners this 'learning' environment is extremely

confusing and complex, and during the first months their main concern is how to manage a group in such a complex environment.

Because they lack the overview of the class as a group as well as the skills to reduce the complexity of this environment, classroom teaching is one of the most difficult modes of teaching for most BTs. Basic to good classroom management is the development of skills to monitor a class effectively.[8] The ability to monitor effectively is based on two important teacher qualities: *focal attention*[9] and *classroom knowledge*. Beginners have to learn to direct their (focal) attention to that part of the information, coming from the class as a group, that is important to keep their students on-task. This part of their repertoire in particular has to be routinized. To achieve this it is important for beginners to develop a conceptual framework of their classes (*classroom knowledge*) as soon as possible, i.e., the kind of responses to teacher's actions from each student, which students do well and which do not, who is cooperative and who is not, etcetera. Classroom knowledge is a prerequisite for flexibility in focal attention, and therefore for effective classroom management.

Teaching skills

At the start of the threshold phase beginning teachers experience numerous problems with ordinary classroom teaching. Although they have learned a number of teaching strategies, both in theory and school-practice, they still seem to lack effective classroom teaching skills, such as: the skills to structure the teaching-learning environment in order to tackle the time-on-task problem, to vary learning activities which last a limited amount of time, to monitor individual students' progress, and the like. From our observations of and discussions with beginning teachers we identified with respect to this topic two major deficiencies in their knowledge base.

- The lack of practical knowledge of and insight into students' learning processes. Stones (1992) pointed out that 'neither neophyte nor old hand is likely to have any formal knowledge about the way people learn, so that all that a new teacher can learn [from other teachers] is what other teachers have learned largely through trial and error or folk wisdom' (p. 9).
- The lack of procedural knowledge that adequately integrates management and instruction.

3. Implications for supervising and/or mentoring beginning teachers

Basic to our conceptual framework is the perception that the process of 'becoming-a-teacher' is more than simply learning to teach. Mentors have also to be aware of the personal and ecological dimensions in this process. In relation to this we consider 'learning-to-teach' as an individualistic, expressive process in a given school context in which the acquiring of craft knowledge and theory need to be integrated. It can be taught through modelling

8 Brown & McIntyre (1988) identified two criteria for effective classroom management: the continuity of pupils' on-task performance, and pupils' progress. These criteria are used by experienced teachers for evaluating their own lessons.

9 *Focal attention* is that (limited) part of teachers' information processing system that allows them to select important information nb classroom teaching and to react to it consciously.

and learning from carefully reflected experience rather than solely academically, but it has to be based on distinct conceptual principles. Here, the mentor has a role to play. Acquiring craft knowledge is not simply imitating a skillful practitioner but learning to solve problems in practice in one's own way. In the words of Tom (1984):

> ... [beginning] teachers can be helped to develop the craft of teaching which centrally involves intellectually based activities including mastery of craft knowledge and the ability to apply that knowledge in context (p. 110).

In this we fully agree with Stones as he states 'teachers are inquirers attempting to solve pedagogical problems'(p. 14). He continues: 'Inquiring teachers will see teaching as an activity of great complexity which we hardly yet begin to understand. They will see it as open-ended exploration in which they express their pedagogical knowledge in action that will not only improve the conditions of learning for their pupils, but also enlarge their own theoretical understanding. This follows from the view of teaching as inquiry informed by a self-consiously held body of principles in which the principles are put to the acid test of practice' (p. 15).

Most of the books on mentoring as mentioned in the introduction mainly focus on the technical aspects of the process of becoming-a-teacher, i.e. learning-to-teach. In this presentation beginning teachers' professional development is considered to be the result of developments on the personal level in connection with those on the professional level and vice versa. The consequence of this position with respect to mentoring beginning teachers is that mentors need to have a counseling attitude and skills (Egan, 1985), as well as an extended pedagogical content knowledge base - i.e. theoretically and practically - in order to be able to help the beginners to reflect on their experiences and so to develop valuable craft knowledge and skills or teaching repertoire. Our research has led to the conclusion that there does not exist a hierarchy in dimensions, as for example suggested by Kagan (1992). Beginners develop professionally in all three dimensions concurrently; the development in one dimension supports the development in the other two and visa versa. If beginners are not carefully supported with that reflection - because most beginners are not able to bring theory and practice together - they may stick to learning by trial and error. One may not expect this to result in proper quality teaching but rather in the continuation of traditional classroom teaching. Especially in the development of quality teaching the mentor plays an important role. In other publications (Vonk, 1994b, 1995) we have described in more detail the mentor's knowledge and skills base which a mentor needs to master in order to be capable to help BTs effectively to develop professionally.

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