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Deepening the exchange of student teaching experiences: implications for the pedagogy of teacher education of recent insights into teacher behaviour

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Abstract

How can teacher education seminars be arranged in such a way that theory is integrated with student teachers' practical experiences? In order to study this key question, we first present a theoretical framework on the sources of teacher behaviour, and discuss its implications for practices within teacher education. Next, we describe our development research study, which led to the identification of three approaches that can help to integrate student teachers' experiences with theory. We introduce a five-step procedure characteristic of all three of them illustrating each approach with real-life examples of interventions and their effects.

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1. Introduction

In many teacher education programmes, an important question is how to teach theory in such a way that student teachers are able to connect it to their classroom activities. Teacher educators are usually very creative in developing teaching strategies, educational procedures, exercises, and tasks, in which they try to help their students in

applying the theory to their teaching practices. Despite all this creativity, the results are generally poor. Many researchers have shown that the results of what Carlson (1999) calls the “theory-to-practice” approach, are meagre (Wideen, Mayer-Smith, & Moon, 1998). Schön (1983) characterises this approach as one of *technical rationality*, and his criticism of this view of teacher education has been widely accepted. More than 20 years ago, Zeichner and Tabachnik (1981) discussed the problem that many notions and educational conceptions, developed during pre-service teacher education, were “washed out” during field experiences. Similar findings were reported by

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Cole and Knowles (1993). Even when student teachers rationally understand the importance of theory as a means to support practice, they soon experience the struggle with everyday problems in their classrooms (Veenman, 1984). And what's more, they notice they are not the only ones struggling. As a result, they often experience the whole idea of applying theory as being a mission impossible (Elliot, 1991). Still, the *technical-rationality approach* has been dominant in teacher education for many decades (Imig & Switzer, 1996; Sprinthall, Reiman, & Thies-Sprinthall, 1996; Wideen et al., 1998), in spite of the growing number of studies showing its failure to influence educational practices.

In several countries (e.g. the United Kingdom and the US) the dissatisfaction with the traditional approach to teacher education has led to programmes in which a considerable part of teacher education is being moved into the schools. In reaction to the criticism of the relevance of theory as a preparation for practice (see e.g. Sandlin, Young, & Karge, 1992; Schön, 1987), alternative certification programmes have been created in various countries (see e.g. Brown, Edington, Spencer, & Tinafero, 1989; Littleton & Larmer, 1998; Zeichner & Schulte, 2001). Several institutions for teacher education have entered into partnerships with schools, and have developed new programmes in which sometimes novice teachers receive very little theoretical grounding. In some of these programmes, teacher education becomes more of a process of guided induction into the tricks of the trade. In many countries, this trend is also being influenced by the understandable need to solve the problem of teacher shortages.

Although this development may satisfy those concerned, there is a great risk involved. The focus seems to move completely away from an emphasis on theory to a reliance on practical experiences. Such a *practice-based* approach to teacher education is, in turn, not very successful either. In fact, it has been demonstrated that teaching experiences can lead to an unproductive process of socialisation rather than to fruitful professional development (cf. Wideen et al., 1998). As Cole (1997) states, this process of socialisation often

creates a dislike for reflection and theoretical deepening.

So, both the traditional and the practice-oriented approach carry a risk. In the traditional approach, the risk is that student teachers do not apply the theory to their teaching practices. On the other hand, the more practice-based approach carries the risk that student teachers will be unable to relate their practices to theory. In both approaches, in order to offset these risks, teacher educators are inclined to emphasise either the importance of theory or the importance of practice. Whatever one's perspective, the core issue remains how to *integrate* the two (Smith, 2003, p. 53).

This raises the following problem: how can a teacher educator design a teacher education programme component in such a way that theory is really being integrated with experiences in practice? If a teacher educator intends to integrate practice and theory, he or she will have to be able to work with the practical teaching experiences of students, and at the same time to take care of the integration of these with theoretical knowledge. The teacher educator also has to stimulate the students to integrate their new knowledge with their school lessons. The aim of this article is to discuss these issues based on recent insights into the conscious and unconscious sources of teacher behaviour. In this way, we wish to contribute to an area that has until now attracted remarkably little attention in professional literature, i.e. the pedagogy of teacher education.

As we will discuss in more detail in the methods section, our methodology was based on the development research approach, which means that we carried out our study within the setting of our own teacher education programme, with the aim of contributing to its development in a research-based manner. This teacher education programme follows the so-called realistic approach, which means that the educators work with realistic examples taken from the student teacher's recent practice, and simultaneously attempt to deepen their experiences, link them to theory, and facilitate the use of theory in their teaching practice of tomorrow. (See for a detailed description of this programme: Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001.)

Given our perspective of the realistic approach, it will not be surprising that we first present a real-life example of a problem experienced by a teacher educator that concretises the focus of this article.

2. A real-life example

In the following fragment, a teacher educator is consulting two of his colleagues during the preparation of a session (intercolleagial consultation is common practice in our teacher education programme). He tells them about his struggles with one of his teacher education classes. He works with a heterogeneous group of 25 student teachers, all teaching different subjects at various secondary schools. What they have in common is that they have just come back from 2 weeks of teaching practice. Thus, the next fragment is a transcript of a real-life situation: the teacher educator is consulting his colleagues about his plans and doubts.

Next Friday, I want to work with my students on the topic of classroom co-operation between pupils. This topic gives me several good possibilities of linking the theory on co-operation and their internship experiences. Earlier in the programme, I already trained them in working together on specific tasks, and in the basics of reflecting on their own co-operation. We talked about some theoretical implications. As a homework assignment during the internship, I asked them to design two or three (parts of) lessons in which the pupils had to co-operate, and to teach these lessons during their internship. Of course, next Friday, I want to know more about their experiences with this, and give them some more theory on co-operative learning. (...) But, to be honest, while I'm telling you this, I sense that I'm not looking forward to next Friday.

For example, I am thinking of the three history students, Michael, Sandra, and Maria. Every time we discussed co-operation, they told me: "Co-operation and history, that's a different matter. Pupils want to hear a good story, and that's it. That is what our own history teacher

always did: he told us a good story, and we just drank in every word he said". (...) Last week, I bumped into Michael in the library, and he told me he had prepared a lesson in which the pupils had to correct a task in pairs. But as soon as the lesson had started, he decided on the spot to skip that part and do it in a pedagogically traditional way.

And then Karen, John, Tom, Eric and Helen. I got them to experiment with something. But now that they have been confronted by actual school practice, I'm sure they will have all kinds of questions next Friday. Based on my previous experiences, I expect Karen to complain about the noise the pupils made, and the disorderly classroom: pupils were talking and walking about. I expect John not to know how to cope with unexpected questions and remarks of pupils, such as: "Can we leave now for the retirement centre to do an interview?" Or: "Fatima worked on that task, you can't blame us all and give us a low mark for that!"

And then, in contrast, Sara, Jonathan and Hassan. The more ways of co-operation they can think of in a lesson, the better it is, they think. So, they have practised a lot. They are full of questions, all of them relevant and to the point. Questions such as: How can I change the task in such a way that they work together towards one product? Can you give pupils a shared mark for working together? How do you deal with a group of pupils that isn't focused? How can you deal with a group of pupils working very fast, and finishing way ahead of the others? (...).

The situation described here is well known among teacher educators. In general, they work with a considerable number of student teachers in a group. Their students come back having had practical experiences, and the teacher educator wishes to deepen their experiences. The problem then is that their experiences are very diverse. The teacher educator in our example doubts what he can achieve in such a situation with a more traditional, *deductive* approach (the *theory-to-practice* approach), an approach in which a lecture is given, or some theory discussed, with the aim of

having student teachers apply this to their teaching practice. The teacher educator aims at a genuine integration of practice and theory. So the first question is: How can he work more *inductively* in a situation like this? In other words, how can one build on the student teachers' experiences, starting from their classroom behaviour, and work towards linkages with theory? In order to answer that question, we have to analyse the nature of teaching behaviour.

3. Theoretical framework: the sources of teacher behaviour

3.1. Conscious and unconscious behaviour

Insight into the factors determining teaching behaviour is essential if teacher educators wish to help their student teachers develop or change their classroom behaviour. Part of this teacher behaviour is conscious and reflective, namely when they have and take the time to step aside from the given situation and consider it consciously (Eraut, 1995). However, one of the characteristics of the teaching profession is that a teacher is often confronted with situations demanding an immediate response. Dolk (1997) calls these *immediate teaching situations*. Based on the work of other researchers, such as Eraut (1995), Yinger (1986), Dolk states that these immediate situations frequently occur in classrooms. During a school day, teachers have to take many, rather complex, and quick decisions such as: Do I interrupt my explanation now or just go on? Do I pay attention to the pupil reading her diary or ignore it? Is it better to give the demonstration I planned, or rather have them try first? Karen, John, Tom, Eric, and Helen in the above example seem to be bothered by questions and dilemmas related to immediate teaching behaviour: How to react in situ to unforeseen situations and problems?

Clark and Peterson (1986) assume based on the findings from five studies that, on average, a teacher makes a conscious interactive decision every 2 min. Yinger (1986) assumes that many of these decisions are not made on a conscious basis, but that less conscious factors, such as routines

and spontaneous reactions, determine much of a teacher's classroom behaviour. He demonstrated that at the most a quarter of the reported thoughts of teachers involved conscious decisions.

It seems as if for a long time researchers have overlooked unconscious teacher behaviour, perhaps because they found it hard to find ways to capture it. Gradually, however, an increase of attention to unconscious processes in teachers' behaviours has become noticeable. For example, the assumption that teachers generally have sufficient time for reflection-in-action (Schön, 1987) was thoroughly disputed by Eraut (1995). He analysed the effect of available thinking time on the mode of cognition, and, like Yinger, noted that teachers in actual educational situations rarely have the time to reflect. Eraut points out that the available time influences the degree of consciousness of the teacher's decisions. This concurs with the theory of Metcalfe and Mischel (1999). They distinguish between *cool* and *hot systems* in the mediation of behaviour:

“The cool system (...) has the potential of generating rational, planned, and strategic behaviours. It is characterized as cognitive rather than emotional, complex rather than simple, and reflective rather than reflexive. The hot system, on the other hand, is an emotional system specialized in quick reactions to strong, emotion-provoking stimuli that trigger pleasure and pain. (...) Once activated, hot system processing triggers rapid actions. As such, the hot system is largely under “stimulus control”.

Hence, when a teacher has to react very fast, his or her “hot” behaviour will be unreflected. When there is more time, his or her reactions may be more conscious, and based upon a rational analysis of the situation. We conclude that teaching cannot be an entirely reflective and rule-guided process, as circumstances do not allow each occurrence to be fully examined, and every possible alternative to be considered based on existing theories. Hence, a great deal of the teaching behaviour of teachers must be based on non-analytic and partially unconscious processes (a point also emphasised by Wubbels, 1992).

Consequently, introspection and retrospection can lead to invalid descriptions of the sources of behaviour. In a number of experiments, people explained their behaviour with the aid of factors that had not actually been present at the time, and they thus unintentionally failed to give the reasons really influencing their immediate behaviour (Nisbett & Wilson, 1977). In other words, there can be a discrepancy between the real causes of behaviour and the arguments created by introspection and retrospection. Nisbett and Wilson conclude that when people give reasons for their behaviour, they make use of a rational reconstruction. As a result of this, they often refer to reasons that did influence them, but overlook unconscious motivations that also played a part.

3.2. *Gestalts*

In summary, teachers can show behaviour in various circumstances without being aware of its sources. These sources can be of a diverse nature. Korthagen and Lagerwerf (1996) emphasise that not only tacit knowledge but all kinds of meanings, feelings, values, needs, routines, etc., can play a part. They call the conglomerate of such unconscious sources of behaviour in a specific situation, a *Gestalt*. We can demonstrate the functioning of Gestalt with the example of driving a car. When all of a sudden a child crosses the road, an instant panic is triggered in the driver, a need to save the child, which also is related to a human value. A meaning is attached to the situation (danger), and a behavioural response takes over almost automatically (stepping on the brakes). As all of these factors can hardly be separated from each other, and all surface within a split second, we can summarise the phenomenon by saying that the immediate situation triggered a Gestalt in the driver almost unconsciously leading to the specific response of stepping on the brakes.

In the same way, teaching situations trigger Gestalts in teachers. If we take the above example of Michael, we can see that perhaps one of the unconscious aspects in Michael's situation is that he made his choice based on certain feelings. For example, he may have been scared of losing control of the situation, or afraid that once the

pupils were working together, he would not get them to be quiet again. It is also possible that previous experiences are influencing Michael's decision, e.g. situations experienced as a pupil, in which moments of co-operation in a lesson made a welcome change, but without having any consequences: a lot of fun, but no learning. His behaviour may also be unconsciously guided by an underlying individual value such as "in a good lesson, the teacher speaks and pupils listen, that's how people learn".

This mass of possible and related sources of Michael's behaviour is an example of a *Gestalt*. The example of the driver and Michael's case clarify the general principle that Gestalts are directly connected with and triggered by specific situations. As they function at an unconscious level, they show an almost automatic nature: once a Gestalt is invoked, the behaviour is carried out (in Gestalt psychology this was named the principle of *closure* of the Gestalt, see e.g. Korb, Gorrell, & Van de Riet, 1989). Gestalts surface based on earlier experiences in concrete situations. When another situation shows similar characteristics, the same Gestalt is triggered, and the behavioural inclination that is part of the Gestalt is evoked. In Michael's case, the behavioural inclination is to teach in a pedagogically traditional way to keep control of the situation. (See for a further elaboration of the Gestalt concept in education: Korthagen et al., 2001, p. 175–204.)

3.3. *The behaviour of student teachers and experienced teachers*

The behaviour of experienced teachers is based on a multitude of experiences with a variety of teaching situations. Most likely, they will not share Michael's feelings, e.g. the feeling of being afraid to lose control of the situation. Their abundance of experiences causes the Gestalts of experienced teachers to differ from the Gestalts of a student teacher. And in connection to this, their behavioural inclinations will also differ.

Throughout the years, experienced teachers have had many chances to reflect on their reactions and actions afterwards. They have become aware of various elements of their own Gestalts. In other

words, they have become aware of the underlying feelings, needs, values, etc., which means that the different elements of the Gestalt have become more conscious and clear, and also that the interrelationships of the elements within the Gestalt have become more manifest (Korthagen & Lagerwerf, 1996).

The behaviour of experienced teachers is thus based on so-called *practical knowledge* (Fenstermacher, 1994). This is knowledge developed during many years of teaching, by being confronted with many unexpected situations asking for immediate, prompt decisions, and by reflecting on these decisions afterwards.

The significance of practical knowledge is confined to the situation or context in which the problem occurs. Thus, practical knowledge is generally related to a specific way of doing something, and to doing it at a certain moment, and in a certain setting.

When used frequently, this practical knowledge can become tacit, and the teacher's reactions can become more routine. In fact, this means that the teacher's behaviour is again guided by unconscious Gestalts, but the difference with the behaviour of student teachers is that experienced teachers' Gestalts are more often based on knowledge that was once conscious, and that this knowledge can generally be made explicit again.

4. Method

4.1. Development research

We believe that teacher knowledge aimed at in teacher education should be based on scientific theory. However, the discussion in the previous section also shows the need to take into account the Gestalts of student teachers formed earlier (compare Wubbels, 1992). In the example we started with, the teacher educator is thus confronted with a fundamental dilemma: How can he organise his course in such a way that he can both give all his student teachers some useful theory and also take into account the fact that their (individual) behaviours are often guided by idiosyncratic and unconscious processes?

This dilemma was the starting point of our study. Since we aimed at a combination of theoretical insight into the dilemma and the development of practical solutions to it, we based the study on the principles of development research as described by Van den Akker and Plomp (1993). As Van den Akker (1999, p. 5, 7) states, in this type of research

theoretical ideas of the designer feed the development of products that are tested in classroom settings, eventually leading to theoretically and empirically founded products, learning processes of the developers, and (local) instructional theories. (...) Development research is often initiated for complex, innovative tasks for which only very few validated principles are available to structure and support the design and develop activities. (...) The aim is not to elaborate and implement complete interventions, but to come to (successive) prototypes that increasingly meet the innovative aspirations and requirements. This process is often cyclic or spiral: analysis, design, evaluation and revision activities are iterated until a satisfying balance between ideals and realization has been achieved.

Below, we report on three cycles of problem analysis: design, evaluation, and revision.

4.2. First research cycle

In our 1-year teacher education programme, we work with heterogeneous groups of 20–25 student teachers doing practice teaching. During their internship, they spend 1 day a week at the university. The theoretical framework described above left us with the problem how to organise opportunities for working with the experiences and Gestalts of our student teachers, and at the same time connect these to theory. Put briefly, in line with the dilemma of the teacher educator in our example, the emerging research question was: *when working with a heterogeneous group in teacher education, how can we use recent insights into the sources of teacher behaviour* (see the theoretical section above) *with the aim of connecting their practices with theory?* We realised that this would

imply that existing Gestalts could be enriched, but also that these Gestalts would sometimes need a fundamental change. In any case, what seemed to be necessary was a focus on methods that would place the student at the centre of the learning process (Pedler, 1974), and that would situate their learning within the context of practice (see Brown, Collins, & Duguid, 1989; Resnick, 1987).

Because we wanted to design effective approaches, we observed three different cohort groups of student teachers during 3 years. In the first year, we aimed at finding examples of “good practice”, i.e. examples of methods and structures that seemed to answer our research question. During the sessions, we made verbatim reports of instructions, and of the discourse of the two teacher educators and the students. (In our teacher education programme, we work in teams of two teacher educators teaching one cohort group for an entire year.) So, during the first year, we observed the methods already being used in our teacher education programme. After the first year, in the evaluation phase of the first research cycle, we discussed the verbatim reports in a team of three teacher educators (i.e. the two involved, A and B, and a teacher educator/researcher C not working with this particular group of student teachers). This made it possible to use the methodological principle of *internal control* by an independent judge (Guba, 1978; Lincoln & Guba, 1985): C had the role of checking whether the examples did indeed take account of students’ Gestalts, and at the same time aimed at a connection with theory. Doubtful examples were removed. This revision phase of the first cycle was the immediate source of the design phase in the second year.

4.3. *Second cycle*

Based on the selected methods, a fresh pair of teacher educators (A and C) worked with a new group of students. This time the problem analysis of the first research cycle was broadened: we wanted to start with a careful analysis of the effectiveness of the methods. As far as the design phase is concerned, again verbatim reports were

made of the instructions and the discourse. This time, we also asked the students to record their reflections in their logbooks during the final 15 min of every group meeting. Afterwards, the three teacher educators/researchers first individually analysed the verbatim reports and the logbook fragments, looking for concrete learning results reported by the students. This evaluation phase led to a list of effective methods. Next, in the revision phase of this second research cycle, a categorisation of these methods was developed into three main types of approaches for enriching or changing the Gestalts of student teachers in relation to theory.

4.4. *Third cycle*

In the third year, the central problem shifted towards gathering clear evidence of the impact of the three main approaches on the student teachers. In this phase, we refined these three approaches and again tested them with a group of 23 students. We evaluated the results of the third year by analysing the students’ written reports and logbooks on the group meetings and on their teaching practice. We gathered excerpts that seemed to show evidence of enrichment or change of Gestalts and/or actual applications in the classroom, thus providing us with concrete evidence of the impact of the three approaches. Again, a third teacher educator/researcher, served as an independent judge, carrying out an internal control. He checked the excerpts from the student reports that seemed to show evidence of effectiveness, searching for alternative interpretations. We decided to consider an outcome as an approach effect, if the reports of at least three of the 23 students showed similar outcomes. However, most of the outcomes reported below could be found in many more than three cases.

In the final revision phase, we concluded that all three approaches did indeed answer our research question, i.e. they have the potential to enrich or change the Gestalts of student teachers, to connect them with theory, and in this way influence their teaching practice. However, we analysed the three approaches again to understand the essence of the procedures involved. In other words, we searched

for the active ingredients in the three approaches, and finally succeeded in formulating them in the form of a five-step procedure that characterises the approaches. In this way, we aimed at creating a basis for the further development of a broad variety of other structures that can be fruitful for the integration of theory and practice in teacher education. This means that the revision phase created a springboard for a next cycle of development research.

5. Results

In this section, we describe the three main approaches we have developed, and the results from the evaluation of these approaches, illustrated by real-life examples of teacher educator interventions and excerpts from student reports. In the next section, we will focus on the result of the final revision phase, i.e. the underlying five-step procedure.

The three main approaches are:

1. Working with previously formed Gestalts;
2. Working with recent experiences and Gestalts that are currently being formed;
3. Creating new experiences.

5.1. The approaches

5.1.1. Working with previously formed Gestalts

The first approach aims at working with previously formed Gestalts. It is based on the assumption that it can be helpful to have students reflect on former experiences as a pupil, and which relate to their present experiences as a student teacher. The rationale behind this is that an enormous amount of literature emphasises the impact of experiences on student teachers' pre-conceptions about learning and teaching when in the pupil role. (See for an overview of this research strand [Wideen et al., 1998](#).)

For example, one of the exercises we used is called *the ideal mentor*. The objective of this exercise is to become aware of meaningful experiences in being mentored. The key question of the exercise was: Do you remember a

tutor or a mentor who has been a shining example to you? Using a guided fantasy technique in which they go back to their experiences with this person, the student teachers are invited to mention important keywords or features related to their own favourite mentor. On the whiteboard, the notions are recorded in a concept map. The teacher educator adds some theoretical notions about mentoring. Finally, the students are asked to connect the keywords and the theoretical notions to their own recent experiences in being a mentor or guide to pupils, and to write some reflections on this in their logbooks.

In discussing the exercise, we discovered that it is in fact archetypal in nature, which can be applied to a variety of other situations in teacher education. We now also use related questions such as: Which teacher is your shining example in guiding co-operative learning? Who has been your ideal teacher? Which of your teachers is your great example for creating a good classroom atmosphere?

In our evaluation of the student logbooks, we found three types of effects of this approach. We illustrate each with an example from the student logbooks written after the “mentor exercise”:

5.1.1.1. *Becoming aware of a previously formed Gestalt in practice*

When I was talking with Tugba [one of the fifth grade pupils], and I didn't know what to do, as it was so very complex, her situation (...) I thought: What would Mrs. Hosang do (my ideal mentor from that exercise we did, remember)? And I thought: she would just listen. So I said to myself: Stop helping, stop looking for alternatives for Tugba. Just listen, and understand her feelings. Guess what happened: it worked, while I was listening, Tugba started to develop her own alternatives!

5.1.1.2. *Enriching existing Gestalts with the experiences of others.* As [Smith \(2003, p. 56\)](#) states, “close interaction between individuals is held to be a salient source of knowledge that might otherwise

be hidden”. This is shown in the following logbook excerpt:

Last Monday, when listening to all the stories of the others about the ideal mentor, I thought: O dear, I’m just repeating myself...As a mentor, I give my pupils only what I needed from my own mentor. During the Monday session, I realised: every pupil needs his own mentor, because every pupil has his own individual needs. I give my pupils very much empathy and so on, all the things I needed when I was a pupil. Last Monday, I suddenly realised: I also have pupils who need more structure from me in my mentoring, that’s also my task as a mentor. Of course, I tried it out (...).

5.1.1.3. *Enriching existing Gestalts by making a link between earlier experience, practice, and theory*

(...) I realised that I don’t have a good example of a mentor. I was a bad pupil and a little bit strange. I always nodded to my mentors and said: Yes, I will do that! But in fact, what I was doing afterwards was: no! I realise that I now try to avoid this particular situation in my own practice. So, I always make very strict appointments/agreements with my own pupils. To be honest, talking about the past was not my favourite part of Monday’s session. But the discussion afterwards, especially on the keywords “mutual responsibility” and “mutual appointments”, was a revelation to me. (...)

5.1.2. *Working with recent experiences and Gestalts that are currently being formed*

Given the fact that all our students are teaching during their internship, we know they all have their own specific “real-life” concerns. The concerns of the students form the starting point of the second approach. In this approach, we work with recent experiences, aiming at Gestalts that are currently being formed. The rationale behind this approach is: working with Gestalts that are currently being formed is the proper moment to influence the forming of Gestalts, enriching or changing them. There are two main methods in this second approach.

5.1.2.1. *Triggering Gestalts by focusing on concrete situations.* For example, we start with a question such as: Last week you gave several lessons. Which *particular situation* in one of your classes, with one or more of your pupils is still puzzling you, and is it a situation you want to discuss with us today?

By means of several concretisation techniques, we help the students to evoke a more detailed picture of the particular situation. For example, we ask the group: “Please, try to think back of the situation (in silence). Can you remember what exactly the pupils were doing? What did they say? Where were they in the classroom? How were they sitting? What exactly did you say? What were your feelings at that moment? What did you want? What was going on in your head? What did the pupils say? Do you remember exactly what they were saying? What were the pupils’ feelings?” etc. So, we ask our students to be as concrete and specific as possible about the situation and their own feelings. We do not ask any why-question, and we focus on the concrete situation, and not on the chosen solution in that particular situation.

By focusing on concrete situations, we try to evoke the Gestalt that is part of the *hot system* (Metcalf & Mischel, 1999; see the theoretical framework above). In the discourses and in the logbooks, we observed that the fact that this focus on concrete situations—sometimes, we literally had to forbid our students to think about the “why-question”—has the effect of enriching and sometimes even changing the Gestalts. Afterwards, the students reported in their logbooks the importance of being concrete and detailed, for example:

When, this morning, you asked me at the start: what were the pupils feeling, I could only think: I don’t know! And simultaneously I thought: and it doesn’t interest me at all! That feeling was very confronting to me, because it is my deeply held belief that a good teacher can deal with the feelings of her pupils...very confronting...I don’t have the solution, but the direction is clear: we, my pupils and I, we both have feelings (...). Later on in the discussion, you told us something about Watzlawick’s theory. For me, the key sentence related to this

experience was: and I am the one who has to deal with their feelings, that is my responsibility. (...)

As noted above, the help of peers can strengthen this effect. For example:

Today, Karen asked me simply: can you tell me what is wrong in that answer of Sophie's [i.e. one of the pupils]? I saw she really didn't understand. Of course, she teaches maths, but (...). And then I thought: if SHE doesn't understand why it is wrong, then my explanation has been really bad. So suddenly, I understood the pupils' behaviour much better. They were not teasing me, they really didn't understand. (...)

So, in peer groups, students try to help each other by asking further *concretising* questions. This is why, in our teaching education programme, we frequently train our students to ask concrete, non-analytical questions (Tigchelaar & Melief, 2000).

5.1.2.2. Enriching and reframing the Gestalts by their integration with theory. In the first example mentioned under Section 5.1.2.1, one of the students explains how the theory the teacher educator added was helpful to her. Another example of integration with theory follows:

You know, my problem was the group work of my pupils. This morning, in the group [meeting at the university], I spoke about the situation in my class, in which the group work was a problem. The pupils didn't co-operate at all! In fact, when going back in my mind to the situation, I thought: next time I won't make the choice of doing group work. But in the discussion afterwards, about the main pattern in our situation, and you and us talking about it from a more theoretical point of view, I realised that I hadn't used Kagan's principle of mutual dependency that you had explained (...). [see Kagan (1994)]

This example concurs with Smith's (2003) view of the appropriation of knowledge, based on Rogoff (1995), namely as a dynamic two-way process in which meanings emerge in the

space between the learner and the more expert other.

5.1.3. Creating new experiences

Sometimes the experiences in the internship are inhibited by circumstances. Then, the formation of new Gestalts is being blocked. The student teachers are inclined to socialise and to repeat behavioural patterns that, from a theoretical perspective, are undesirable. Perhaps that was the problem with Michael, Sandra, and Maria.

The realistic approach does not stop at the realities of today's schools, but also aims at making student teachers aware of new possibilities. However, this is not done by theoretical discussions (as is often the case in the traditional approach to teacher education), but by creating new experiences during the meetings at the teacher education institute. This is the third main approach. By creating a new experience, the Gestalts of student teachers can be enriched separate from the school experiences. We briefly describe two possible methods of creating new experiences.

5.1.3.1. Modelling combined with reflection-in-action. The first method of enriching Gestalts by creating a new experience is through modelling a certain educational procedure. For example, we give the students a well-defined task in which they have to co-operate. The teacher educator models a teacher. During the task, the teacher educator writes on the back of the whiteboard what he or she was doing and what choices were being made. In short, the teacher educator behaves as a model, and at the same time explicitly reflects "in action". For example:

After the instruction, I stood waiting in silence in front of the group. Just looking round the classroom to see if everybody was comfortable with the task. Whenever there was a question, I spoke very softly and promised to come later. After ten minutes, I noticed one of the groups was not working; they were discussing other things. First, I started by looking at them for a minute, my attitude was open, because I just wanted to check: is my first impression right? Well, my first impression was right, so I walked

up to them a little bit closer. I was just standing there in silence, listening. They said: Sorry, we are talking about our favourite class! (...)

Afterwards, in looking back, the specific actions and choices are discussed with the students. While doing so, the teacher educator refers to relevant theoretical notions.

We also used this same method of creating an experience in a slightly different way. This time, each group was asked, during the process of co-operation, to take a time-out to reflect in action. We did this at an unexpected moment. During the time-out, the teacher educator discussed with the students what the positive aspects of their co-operation were, what could be done more effectively, and what they would have liked the teacher educator to do. In looking back on the experience and the reflection in action, the teacher educator referred to some theoretical notions, in this example on co-operative learning.

In our evaluation of the approach, we found many remarks of the students showing evidence of the enrichment of Gestalts, e.g. the following representative reaction:

This was quite an experience: looking into the head of a teacher! (...) Give me more! It's very special to discuss with others what is on their minds (...). Now I know everyone has his particular problems with co-operative learning. I'm going to give it a try.

5.1.3.2. Observing good practice. An example of this method is the use of a video fragment showing an experienced teacher dealing with pupils working together. The student teachers observe the teacher's behaviour. The same video can then be shown again, but this time the students observe the pupils' behaviours.

In our evaluation of the approach, we found two types of Gestalt enrichment in connection with the two types of observation tasks: looking at the teacher's behaviour or looking at the pupils' behaviours. For example:

I have to confess: I was at first very sceptical about looking at a so-called "good teacher" in a "fine example of co-operating" pupils. But

while looking at the example and discussing the observation results, I became aware of something interesting in my own ideas on teaching, and my own behaviour connected to those ideas. In fact, looking back on my own practice until now, I realise I am a sort of "leader-teacher", being the expert on the subject knowledge. That means: I like to work with the class as a whole, first telling and explaining as an expert, then giving an instruction, and next having the pupils work on their tasks. Afterwards, I discuss the results. Looking at the video I thought: Oh boy, you have to turn a mental switch! Good teaching is not only being the leader and being the expert, a teacher is also a kind of "coach". I saw all the interventions the teacher made, and I was astonished, wow! She was walking around, just looking and helping, asking questions, making helpful remarks, giving compliments, evaluating the process (...)

And:

In my lessons, I try very hard to stimulate my pupils to co-operate, because I believe co-operation is important. Looking at the pupils' behaviours on the video yesterday, I suddenly understood why pupils don't always like my co-operation lessons... On the whole of the video, I saw the same things that happen in my own lessons: pupils working together and a teacher walking around. And then suddenly, comparing both situations, I thought: my pupils are also doing a great job, just as these pupils, but mine don't KNOW they are doing a great job! I hardly ever pay them a compliment!

5.2. Revision

In the revision phase of our development research approach, reflection on the three approaches we described above made us first realise that it is not necessary to introduce any hierarchy between them. All are suitable depending on the kind of group and the specific situation. And of course, combinations can be made.

As explained above, as a follow-up we started to look for the essence of the three approaches, for

the active ingredients. This led to the formulation of a five-step procedure characteristic of all three approaches, and which could help to guide curriculum development by other teacher educators wishing to work with student experiences, and enrich or change their Gestalts.

The five steps are *prestructuring, using experiences, structuring, focusing, and adding theory with a small t*. Briefly summarised, the first step aims at offering a focus, the second at using real and personal experiences, the third at structuring the reflections of the students on these experiences (e.g. within categories), the fourth at focusing on a limited number of specific aspects that surfaced during the previous step and are connected with the students' concerns, and the fifth step at identifying small theoretical principles that can help to guide the students' perceptions and actions in new situations. This fifth step is called theory with a small t, as opposed to the scientific theory in articles and handbooks (Theory with a capital T). At the same time, this in itself is a new step of prestructuring the next cycle, as it focuses the attention during the next experiences of the student teachers.

The first step (pre-structuring) is very important. During prestructuring, the attention of the student teachers is being drawn to a specific aspect of their experiences. It is the aspect of the Gestalt the teacher educator wants to emphasise during the session. In the "focusing" step, it is this aspect that receives the attention, thus enabling the teacher educator to also add some theoretical notions that can become connected to the Gestalts. Below, we will elaborate on the important first step of prestructuring by describing three examples that we ourselves use.

5.3. Three examples of prestructuring

The context is the use of WEB-CT, an online learning environment in which student teachers can, e.g. send e-mails to each other or to the course group as a whole.

5.3.1. Example 1: *that's fine, that's wrong*

At the end of the last session, we agreed that each of us would experiment with a specific

aspect in his or her lessons, something that has to do with co-operation among pupils. We stipulated a few specifics. In your preparation of the next session, I would like you to describe two events in which you were dealing with co-operating pupils in a classroom situation. Please pick out one that made you feel satisfied, and another that left you dissatisfied. In WEB-CT, describe the events as precisely and concretely as possible: What were the pupils doing, what were you doing? What did you think? What did you feel?

Please, also respond to the contribution of two of your fellow students. During the next session, we will discuss factors interfering with and contributing to pupil co-operation.

In case it wasn't possible for you to try out something, please indicate what it was you would have wanted to try, what kept you from doing it, and send a message about this using WEB-CT.

5.3.2. Example 2: group "desperate"

At the end of the last session, we agreed that each of us would experiment with some particular aspect in his or her lessons, something to do with co-operation between pupils. We made some specific arrangements. Experienced teachers know that there are pupils who cannot easily cope with tasks in which they have to co-operate. Perhaps you have already experienced this in your class! For example, in your lesson, there may have been a group of pupils who said from the very beginning: "We will do this at home." Or perhaps there was a group saying: "We have divided the tasks and now we are working individually". Or: "Louis is working so slowly, we can't wait for him..." If you have such a group, we would like to ask you to observe them twice, each time during 5 min: What exactly are they doing, and what are they saying to each other? What do you think about this? How do you feel about it? If you wanted to, at what time and at what moment could you intervene? What would you do then? Please write down your observations and reflections using WEB-CT. Please, also

respond to the contribution of two of your fellow students.

During the next session, we will role-play some of the situations you have described. We will try to formulate some rules of thumb that you can use in your teaching practice in your own dealings with groups that are more difficult.

In case it wasn't possible/was impossible for you to experiment, please indicate what it was you wanted to try, what kept you from doing it, and send a message about this using WEB-CT.

5.3.3. Example 3: organising co-operation. Yes, but how?

At the end of the last session, we agreed that each of us would experiment with something in his or her lessons, something to do with co-operation between pupils. We made some specific arrangements. After the lesson, we would like you to take 15 minutes to look back on it by describing (using WEB-CT): What happened? How did the pupils behave (try to be as concrete as possible)? How did you feel about the situation? What was important to you? Imagine the next period with this same class, and plan 5 min to tell the pupils something about what you have noticed in relation to their co-operating behaviour. What was positive in their behaviour? What can be improved?

Please also respond to the contribution of two of your fellow students.

During the next session, we will focus on your own expectations in relation to pupil co-operation, and how to communicate your expectations to your pupils.

In case you were unable to do it, then indicate what it was you wanted to try, what kept you from doing it, and send a message about this (using WEB-CT).

The above examples illustrate that in the phase of prestructuring, we try to work on the basis of three principles. We call them the ART of prestructuring:

- *Attention to a specific aspect.* The maxim is: Try as much as possible to draw the attention of the

student teachers to a specific aspect of their experiences.

- *Reflection.* Here the principle is: Try to promote students' individual reflections (on their previously unconscious Gestalts), and stimulate them to do this in a concrete manner.
- *Together.* Working together (asking for a reaction to the contribution of others) helps the student teachers to learn from each others' (new) insights and experiences.

These three principles concur with Smith's (2003) conclusions from a literature review on workplace learning, namely that reflection on authentic situations, as well as the negotiation of meanings within a social context, are beneficial to effective vocational learning.

6. Conclusions and discussion

We have studied the connections within teacher education programmes between recent developments in the theory on teacher behaviour, and the problem of linking experiences of student teachers and theory. This has led to the identification of three promising pedagogical approaches in teacher education, and a five-step procedure underlying these approaches. The fundamental difference between the theory-to-practice approach and the approaches described in this article, is that the latter are based on (1) working with student teachers' own specific and actual experiences and their (immediate) behaviours, (2) the promotion of reflection on these experiences and behaviours, (3) co-operation between student teachers, and (4) taking existing Gestalts of student teachers seriously, as the basis for their further professional growth. These principles are fundamental to what is called *realistic teacher education*, and is generally absent in more traditional approaches.

The realistic model is, e.g. fundamentally different from the way *cases* are often used as a basis for courses in teacher education (cf. Shulman, 1992). In the latter, these cases are generally described by people other than the student teachers themselves, and they do not originate from their own practices. That case-based

approach is much more deductive: the cases are generally chosen and described in the light of the theory that the teacher educator finds important to present. In contrast to this, the “cases” used and worked with in the realistic approach are the student teachers’ own experiences. From the point of view of the role of Gestalts in teaching, this is an important difference. In this way, student teachers can become aware of the Gestalts that directed their own actual behaviours. When reflecting on cases they themselves have not experienced, these Gestalts often do not surface, as the student teachers can easily discuss these cases in a rational manner that does not take into account the feelings, images, value conflicts, etc. that play a role in a real classroom situation (and which they are often not aware of before actually being confronted with these situations).

Within the context of this article, we have not discussed the evaluative research carried out on the realistic approach, because this has already been done in several other publications (see for an overview Korthagen et al., 2001). However, we would like to mention that in an extensive national survey, our programme was rated significantly better by graduates with respect to its significance for their practice than the average teacher education programme in the Netherlands ($n = 5135$, $p < 0.001$). Although this is a remarkable result in the light of the worldwide complaints about the impact of teacher education on teaching practices, this research does not yet clarify exactly “which interventions by which interveners in what situations elicit what responses from which prospective teachers”, which was the fundamental question about the pedagogy of teacher education put forward by Fuller and Bown (1975) almost 30 years ago. We believe that such a question is almost impossible to answer given the complex nature of teacher education, and the difficulty of applying quasi-experimental designs in this field. In fact, we are convinced that it is the careful combination of several principles that account for a good pedagogy of teacher education. In this respect, we hope to have clarified how teacher educators can use ingredients of the realistic approach in instances such as the one described in the real-life example presented in the second

section, an example that we consider representative of the core problems of many teacher educators.

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References

- Brown, D., Edington, E., Spencer, D., & Tinafero, J. (1989). A comparison of alternative certification, traditionally trained, and emergency permit teachers. *Teacher Education and Practice*, 5(2), 21–23.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32–42.
- Carlson, H. L. (1999). From practice to theory: a social constructive approach to teacher education. *Teachers and Teaching: Theory and Practice*, 5(2), 203–218.
- Clark, C., & Peterson, P. (1986). Rhythms in teaching: the narrative study of teachers’ personal practice knowledge of classrooms. *Teaching and Teacher Education*, 2(4), 377–387.
- Cole, A. L. (1997). Impediments to reflective practice. *Teachers and Teaching: Theory and Practice*, 3(1), 7–27.
- Cole, A. L., & Knowles, J. G. (1993). Teacher development partnership research: a focus on methods and issues. *American Educational Research Journal*, 30(3), 473–495.
- Dolk, M. (1997). *Onmiddellijk onderwijsgedrag: Over denken en handelen van leraren in onmiddellijke onderwijsituaties* [Immediate teaching behaviour: on teacher knowledge and behaviour in immediate teaching situations]. Utrecht: WCC.
- Elliot, J. (1991). *Action research for educational change*. Buckingham: Open University Press.
- Eraut, M. (1995). Schön shok: a case for reframing reflection in action? *Teachers and Teaching: Theory and Practice*, 1, 9–22.
- Fenstermacher, G. D. (1994). The knower and the known: the nature of knowledge in research on teaching. *Review of Research in Education*, 20, 3–56.
- Fuller, F. F., & Bown, O. H. (1975). Becoming a teacher. In K. Ryan (Ed.), *Teacher education* (pp. 25–52). Chicago, IL: University of Chicago Press.
- Guba, E. G. (1978). *Toward a methodology of naturalistic inquiry in educational evaluation*. Los Angeles: Center for the Study of Evaluation, University of California.
- Imig, D. G., & Switzer, T. J. (1996). Changing teacher education programs. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed.) (pp. 213–226). New York: Macmillan.

- Kagan, S. (1994). *Co-operative learning*. San Juan Capistrano, CA: Resources for teachers.
- Korb, M. P., Gorrell, J., & Riet, V. vande. (1989). *Gestalt therapy: practice and theory*. New York: Pergamon Press.
- Korthagen, F. A. J., & Lagerwerf, B. (1996). Reframing the relationship between teacher thinking and teacher behavior: levels in learning about teaching. *Teachers and Teaching: Theory and Practice*, 2, 161–190.
- Korthagen, F. A. J., Kessels, J., Koster, B., Lagerwerf, B., & Wubbels, T. (2001). *Linking practice and theory: the pedagogy of realistic teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.
- Littleton, M., & Larmer, B. (1998). Alternative education: reflection on the past and implications for the future. *Teacher Education and Practice*, 14(1), 1–9.
- Metcalfe, J., & Mischel, W. (1999). A hot/cool system analysis of delay of gratification: dynamics of willpower. *Psychological Review*, 106, 3–19.
- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: verbal reports on mental processes. *Psychological Review*, 84, 231–259.
- Pedler, M. (1974). Learning in management education. *Journal of European Training*, 3(3), 82–94.
- Resnick, L. (1987). Learning in school and out. *Educational Researcher*, 16(9), 13–20.
- Rogoff, B. (1995). Observing sociocultural activity on three planes: participatory appropriation, guided participation, apprenticeship. In J. Wertsch, A. Alvarez, & P. del Rio (Eds.), *Sociocultural studies of the mind* (pp. 1–8). Cambridge, UK: Cambridge University Press.
- Sandlin, R. A., Young, B., & Karge, B. D. (1992). Regularly and alternatively credentialed beginning teachers: comparison and contrast of their development. *Action in Teacher Education*, 14(4), 16–23.
- Schön, D. A. (1983). *The reflective practitioner: how professionals think in action*. New York: Basic Books.
- Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.
- Shulman, J. H. (Ed.). (1992). *Case methods in teacher education*. New York: Teacher's College Press.
- Smith, P. J. (2003). Workplace learning and flexible delivery. *Review of Educational Research*, 73(1), 53–88.
- Sprinthall, N. A., Reiman, A. J., & Thies-Sprinthall, L. (1996). Teacher professional development. In J. Sikula (Ed.), *Handbook of research on teacher education (2nd ed.)* (pp. 666–703). New York: Macmillan.
- Tigchelaar, A., & Melief, J. (2000). Peer supported learning for student teachers on paid teaching practice: student teachers learn to supervise one another. In G. M. Willems, J. H. J. Stakenborg, & W. Veugelers (Eds.), *Trends in Dutch teacher education* (pp. 185–195). Garant: Leuven/Apeldoorn.
- Van den Akker, J. (1999). Design approaches and tools in education and training. In J. Van den Akker, R. Maribe Branch, K. Gustafson, N. Nieveen, & T. Plomp (Eds.), *Design approaches and tools in education and training*. Dordrecht: Kluwer Academic Publisher.
- Van den Akker, J., & Plomp, T. (1993). Development research in curriculum: propositions and experiences. *Paper presented at the Annual Meeting of the American Educational Research Association*, Atlanta.
- Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research*, 54(2), 143–178.
- Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: making the case for an ecological perspective on inquiry. *Review of Educational Research*, 68(2), 130–178.
- Wubbels, Th. (1992). Taking account of student teachers' preconceptions. *Teaching and Teacher Education*, 8, 137–149.
- Yinger, R. J. (1986). Examining thought in action: a theoretical and methodological critique of research on interactive teaching. *Teaching and Teacher Education*, 2(3), 263–282.
- Zeichner, K. M., & Schulte, A. K. (2001). What we know and don't know from peer-reviewed research about alternative teacher certification programs. *Journal of Teacher Education*, 52(4), 266–282.
- Zeichner, K., & Tabachnik, B. R. (1981). Are the effects of university teacher education washed out by school experiences? *Journal of Teacher Education*, 32, 7–11.