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TACIT PEDAGOGICAL KNOWING:
AT THE CORE OF TEACHER'S PROFESSIONALITY

Abstract: The purpose of this article is to examine teachers' interactive pedagogical thinking and action, especially their tacit pedagogical knowing. Tacit pedagogical knowing is defined as a process in interactive teaching situation, through which a teacher finds solutions to surprising and challenging situations, *pedagogical moments*, so that the lesson continues. Teachers are able to describe their tacit pedagogical knowing afterwards and also find some reasons for it as well. More specifically, the aim is to study the appearance of teacher's tacit pedagogical knowing and the contents including in teacher's tacit pedagogical knowing. Based on the research results, a model of teacher's tacit pedagogical knowing is developed. Using the model, it is possible to illustrate the factors that are at the core of teacher's professionality. This model could be used in the context of teacher education.

Key words: teacher's practical

1. INTRODUCTION

The research presented in this paper (Toom, 2006) belongs to the paradigm of teacher thinking (cf. Clark & Peterson, 1986), and a lot of research has been done about teacher's interactive thoughts and actions. For example, Clark and Peterson (1986), Carter (1990), as well as Munby, Russell and Martin (2001) mention researches on the correspondence between teacher's lesson plan and the realized lesson, on teacher's interactive decisions concerning student learning and on teacher's actions concerning student's activation during instruction. All these studies focus mainly on the official actions in the classroom which are determined by the curriculum.

With this research on teacher's tacit pedagogical knowing it is possible to focus on the unofficial issues in teaching and learning, as van Manen (1991b, p. 187) calls them. These implicit issues are not usually addressed in researches, because they are neither immediately in teachers' minds nor at the focus of theories (cf. Rodgers & Raider-Roth, 2006, p. 266). But still, teacher's tacit knowledge is mentioned to be very important, although it is often researched as a part of something else, for example explicit practical knowledge (cf. Husu, 2002), reflection on action (Loughran, 2006) or hidden curriculum (Jackson, 1968). A central character of this research is the presence of real practical teaching-studying-learning situation, in which most of the data has been collected. It is very valuable

to do the research in the immediacy of classroom reality, where the most important phenomena actually appear (cf. Shulman, 1986; p. 23).

Thus, the focus of this research is on teacher's interactive thinking and action, and more specifically on teacher's tacit pedagogical knowing. The special interest is on surprising and quick moments of interaction, the pedagogical moments as van Manen (1991b) calls them, where a teacher has to act immediately in order to make sure that a lesson continues. The moments "demand" teacher's immediate pedagogical action – or non-action. The aim of the research is to understand the teacher's tacit pedagogical knowing as a phenomenon and its contents in interactive instructional situation.

Research task is structured into research questions as follows:
1. How does a teacher's tacit pedagogical knowing appear in teacher's actions?
2. What kind of contents include in teacher's tacit pedagogical knowing?

2. THEORETICAL FRAMEWORK

The theoretical part of this paper consists of three main themes. In Chapter 2.1, characteristics of teacher's practical knowledge (cf. Elbaz, 1981; 1983; Shulman, 1987; Fenstermacher, 1994) are clarified. Chapter 2.2 handles teacher's pedagogical thinking (Kansanen et al., 2000; p. 6) and reflection (cf. van Manen, 1991a). In Chapter 2.3, the concepts of tacit knowledge and tacit knowing (cf. Polanyi, 1966; Rolf, 1995; Schön 1983) are considered. These three topics have close relationships with each other: teacher's tacit pedagogical knowing appears in interactive teaching-studying-learning situations in pedagogical moments, these moments and actions taken in them are reflected on afterwards, and so a teacher's practical knowledge accumulates (cf. Hegarty, 2000, p.454).
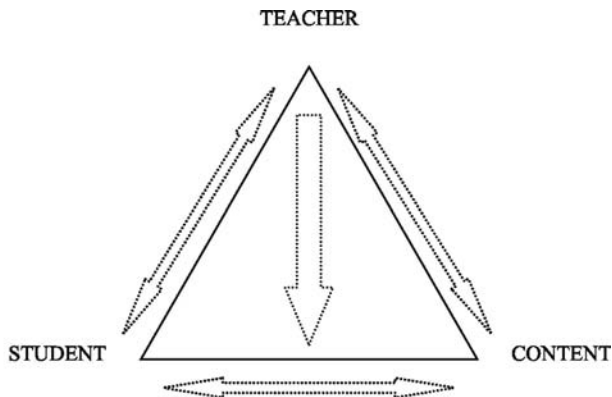
2.1. Teacher's Knowledge

Teacher's practical knowledge has been studied in several researches from different viewpoints (Elbaz, 1981; 1983; Shulman, 1987). It is often understood that teachers do not have a coherent body of professional knowledge, but an entity encompassing beliefs, insights, and habits which are necessary in everyday teaching. Clandinin and Connelly (1987, pp. 487-488) mention that several different concepts of personal structures are used in researches, such as teachers' conceptions, perspectives, understandings, constructs, principles of practice, beliefs and principles, practical knowledge, thinking criteria, personal constructs, personal knowledge and personal practical knowledge. Despite this variation, the concepts seem to mean quite the same things. Related to this issue, Fenstermacher (1994, p. 30) points out that there appears to be a growing tendency in the educational research literature to discuss knowledge and beliefs as if the terms were synonymous. He says that researcher's view towards teacher knowledge can be either *"the grouping sense of knowledge"* which means for example that teachers

generate knowledge – ideas, conceptions, images, perspectives, etc. when performing as teachers – in action on their experience or *"the epistemic status sense of knowledge"* which means that teachers are justified in performing as they do for reasons or evidence they are able to provide. (Fenstermacher, 1994, p. 31.)

In any case, the conception of teachers' practical knowledge is broad encompassing both teacher's knowledge *of* practice and knowledge which is mediated *by* practice (cf. Elbaz, 1981, 1983). Carter (1990, p. 299) mentions that teacher's practical knowledge is closely bound to a specific time, place or situation and it stems from its close connection to practical situations where it is shaped. Feiman-Nemser and Floden (1986, p. 512) state that when a teacher knows something practically, s/he knows something about the action and other elements of the situation in a certain specific case. Buchmann (1987, p. 152) sees that the purpose of practical knowledge is to inform wise action – not to advance general understanding. Practical knowledge is shaped by a personal history and it includes intentions and purposes, and also the cumulative effects of life experience (Carter, 1990, p. 300). This kind of personal and individual nature is largely stated as a characteristic of a teacher's practical knowledge, and that is why it is also personally compelling. Thus, this kind of teacher's knowledge is cognitive, but it has also affective, social and moral dimensions, as for example Husu's (2002) research shows.

In this research, the actual context of teacher's practical knowledge is described with the didactical triangle (Figure 1). The basic factors of teaching-studying-learning process and the relations between them illustrate the wholeness in which a teacher's practical knowledge is developed and used. The original idea of didactical triangle is Herbart's (1802), but several researchers have developed it further (cf. Kansanen & Meri, 1999, pp. 107-116). A teacher has to have the *relation to content* so that s/he will be able to teach it for students. The *pedagogical relation* between teacher and student is also in a central position. Teacher's task is to direct the *didactical relation* between teacher and student's studying (Kansanen & Meri, 1999).

Figure 1. *The didactical triangle as a framework of teacher's practical knowledge (cf. Kansanen & Meri 1999, pp. 107-116).*

2.2. Teacher's Pedagogical Thinking

Teacher's pedagogical thinking or reflection focuses on the themes of teaching-studying-learning process (Kansanen, 1993a). Pedagogical thinking is decision making, because a teacher has to make decisions continuously, when s/he is working. Teacher's thinking towards her/his own action before or after interaction is reflective, because it is not necessary to act immediately. Teacher's decision making during interaction, which is the focus of this research, is different, because teacher is making quick and intuitive decisions, and their justifications come later into her/his consciousness. (Kansanen 1993a; Kansanen et al., 2000.)

Van Manen (1991a, pp. 512-513) summarises the different modes of reflection into four different types. All these types of reflection have their important and independent roles before, during and after interactive teaching-studying-learning process. They are also in reciprocal relation and complete each other.

(i) ANTICIPATORY REFLECTION *(before interaction)*
– enables to deliberate about possible alternatives
– enables to decide on courses of action
– enables to plan things
– enables to anticipate the experiences which will be a result of planned actions
– helps to approach situations and other people in an organized, prepared way

(ii) ACTIVE OR INTERACTIVE REFLECTION *(during interaction)*
– allows one to come to terms with the situation or immediate problem
– permits to make decisions on the spur of the moment

(iii) RECOLLECTIVE REFLECTION *(after interaction)*
– helps to make sense of past experiences and gain deeper insights
– enables to become more experienced practitioner as teacher

(iv) DIFFERENT TYPE OF REFLECTION: MINDFULNESS *(during interaction)*
– is a common experience composed of the interactive pedagogical moment itself
– distinguishes the interaction of tactful pedagogues from the other forms of acting
– is not usually produced by reflection, but may be mindful

(van Manen, 1991a, pp. 512-513; *Italics* added by the author)

The focus of this research is placed in the interactive phase of the teaching-studying-learning process. Its quality is not primarily similar to van Manen's (iii) *interactive reflection*, but it comes closer to a different type of interactive reflection, (iv) *mindfulness*. There are rational and conscious, but also intuitive elements in the phenomenon of teacher's pedagogical thinking and reflection and they have been considered here from different viewpoints during the phases of the teaching-studying-learning process. The phenomenon of teacher's tacit pedagogical knowing has still its specific qualities that require more careful examination.

2.3. Teacher's Tacit Pedagogical Knowing

The concepts of tacit knowledge and tacit knowing have raised a lot of discussion among the philosophers and epistemologists (e.g. Polanyi, 1966; Wittgenstein, 1922; Rolf, 1995), theologians (e.g. Sanders, 1988), social scientists (Gourlay, 2002, 2004; Sveiby, 1994, 1997) and even the researchers of teacher's knowledge and knowing (Fenstermacher, 1994; Hager, 2000; Orton, 1993). Within the research on the master-apprentice -relationship various definitions concerning the concept have appeared (e.g. Jernström, 2000; Göranzon & Florin, 1992) as well. Also Schön (1983) has described an expert's knowing-in-action and reflection-in-action, which come close to the phenomena discussed here. Tacit knowledge appears also regularly in social discourse, where it seems to be a "buzz" word connected to professionals, but still without a clear definition.
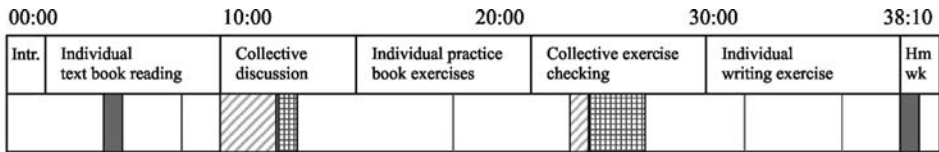
In this research, the notions of teacher's tacit knowledge and tacit knowing are viewed much in the same way as Fenstermacher (1994, p. 20) and Niiniluoto (1996, p. 51) define them. In this research the teacher's *tacit knowledge* is understood as a teacher's implicit knowledge, which covers their embedded, implicit beliefs, attitudes and values. In other words, *tacit knowledge* is defined as a person's beliefs and attitudes, which are only partly, but not completely in their consciousness, and for this reason it cannot be directly articulated. Teacher's *tacit pedagogical knowing* can be observed in teachers' skillful actions and competence in the classroom, in their ways of handling uncertain and surprising moments, and in their ability to act in a way that the confusion of the pupil or the moment balances in a sensible way and teaching, studying and learning go on again.

In this research, the focus is on *tacit knowing*, which is understood as a process and which in the light of Fenstermacher's (1994, p. 44-45) as well as Niiniluoto's (1996) theories can be put into words; otherwise it would be difficult to do research on it. When teacher's tacit pedagogical knowing is seen as an active process of the use of teacher's practical knowledge, the structure of tacit knowing is defined in the same way as Polanyi (1966) and later Rolf (1995), van Manen (1991b, p. 146) and also Hansen (2001) do it. A teacher reacts in the pedagogical moment of the lesson by seeing its nature, understanding its meaning, sensing its significance, knowing immediately how and what to do, and doing something right, so that the lesson goes on.

3. METHODOLOGY

The qualitative data of this research is collected in authentic classroom situations from four teachers by using video-observation and stimulated recall interview (cf. Bloom, 1953; Patrikainen & Toom, 2005). Approximately eight lessons from each participant have been videotaped and the stimulated recall-interviews are conducted after the videotaping. The surprising moments, so called "pedagogical moments" (cf. van Manen, 1991b) during the lessons were the special focus in str-interviews. The participants were asked to describe and justify their thinking and action during these moments.

The general overviews of all the videotaped lessons were made, and the pedagogical moments in the videotaped lessons were considered in a more detailed way (cf. Bottorff, 1994; Rosenstein, 2002). The different patternings in the episodes describe the different emphases of teacher's actions during the episodes. An example of a lesson analysis is presented in Figure 2.

00:00		10:00	20:00		30:00		38:10
Intr.	Individual text book reading	Collective discussion	Individual practice book exercises	Collective exercise checking	Individual writing exercise		Hm wk

Figure 2. An example of the illustration, in which the general overview of the lesson and the pedagogical moment episodes are marked.

Str-interview data, which was connected to these surprising pedagogical moments, was analyzed by using qualitative content analysis and by following abductive logic (cf. Peirce, 2001). The categories of the analysis were formed up inductively from the data, but a larger theoretical framework, the didactical triangle (Figure 1) structured the analysis. By these two analyses, the phenomenon of tacit pedagogical knowing is considered from two various viewpoints. The phenomenon is viewed from the outsider's – or from the researcher's perspective – with the video analyses, whereas the teacher's own perspective of the phenomenon is revealed with the analyses of STR-interviews.

4. RESEARCH RESULTS

The research results are presented in this chapter. The results to the first research question are presented in chapter 4.1 and the results to the second question are presented in chapter 4.2. Authentic data excerpts are added to the description of the results. In chapter 4.3, the conclusion and comparison between the appearance and the contents of tacit pedagogical knowing are discussed.

4.1 The appearance of tacit pedagogical knowing

As it has been explained, eight lessons from all the participating teachers were videotaped. Based on the video observations and the STR-interviews with the participants, 285 pedagogical moment lesson episodes were chosen for further examination. These episodes, in which participants' tacit pedagogical knowing appeared, were analysed and placed into subcategories and upper categories and finally to three main categories according to their primary main idea: the maintenance of pedagogical relation, the maintenance of relation to content, and the maintenance of didactical relation.

4.1.1 The maintenance of pedagogical relation

In the participating teachers' lesson profiles, the greatest part of analysed pedagogical moment episodes (133 episodes) related to the maintenance of pedagogical relation between the student and teacher. The teachers took care of the pedagogical relation with their *manners and habits*. They maintained good class discipline and made proper and clear interventions when they were necessary, but they also allowed humour in classroom. Their action was positive and supportive, they noticed and allowed student's opinions, and noticed their working. They encouraged students to discussions and guided them towards responsibility. They also strived to maintain the pedagogical relation with their *tactfulness*. They aimed to create a secure and positive atmosphere in the classroom and they mastered it with their gestures and expressions. They acted patiently when it was necessary.

> *The physics lesson is going on in the class. The students read aloud a piece of text from the textbook in turn. The students, sitting at the back part of the classroom, are discussing while the others are reading. Teacher4 goes besides the group of students in the rear. Teacher4 looks at their work, he opens a textbook at the right place and starts to follow the text that one of the students is just reading. The students stop their discussion and calm down to follow the instruction.*
> (T4L2Ph, 17:05-17:40)

4.1.2 The maintenance of relation to content

There were only 18 pedagogical moment episodes which focused on the maintenance of teacher's relation to content. It was also interesting, that there were no episodes in Teacher 1's data that would have maintained the relation to content. The other three teachers proved that they are *mastering the content of teaching*. They concentrated on the content of teaching, specified the details of content of teaching, and clarified it as accurately as it was necessary.

> *Teacher4 and the students stand around the table. Teacher4 illustrates a burning reaction for the students with a demonstration. Teacher4 explains the course of the demonstration for the students and tells them thoroughly about the characteristics of carbon dioxide, which is a result of the burning.*
> Teacher4: Carbon dioxide is a colourless, odourless gas, and from a viewpoint of human action it is quite neutral. But, but but… Now that carbon dioxide and steam that come from there are both heavier than that oxygen. And now it is not possible that there could form more that carbon dioxide or that oxygen than there is that oxygen. And now the next situation is, that I put this glass pot upside down on that jar or on that candle in a way that it is there in the water bowl. After this it will be a closed system in a way, that no oxygen can enter there from outside. No gases can come out from there; no gases can go in there. That reaction in there continues. So, that candle burns for a moment, until all the oxygen has burnt there, and formed to be water, steam, and carbon dioxide have formed. And as I said, both of those gases that form there are heavier than that free oxygen, so their volume is smaller, and we should see, that the amount of the gas here diminishes. And let's see, if we perceive this phenomenon.
> Student1: Look what happens.

Student7: It is dying down.

Student3: It's over.

Student9: Nice smoke comes from there.

Student11: That water raised.

Teacher4 tells thoroughly the details for a while, but then starts quickly to reduce the information. Teacher4 ends his talk and focuses the students' attention on the demonstration that is going on.

Teacher4: Yes, now that previously mentioned steam can be seen condensated here on the surface. Well, now we perceived there, that the surface of the water rose in the pot. In the beginning there was no water. And now when the candle died down, two phenomena happened there at the same time. One thing was that the oxygen there had burnt away… and had changed to be carbon dioxide, and then the volume of carbon dioxide is smaller than the volume of oxygen. The other thing that happened was that the steam there condenses to water and disappears from this gas space, and that's why it seems that the surface of the water rises. Okay, this was not a strange thing here. This had to do with the theme that we had on our previous lesson. Okay… then, but then we continue to play with water.

The students go to their seats. (T4L2Ph, 08:29–11:56)

4.1.3 The maintenance of didactical relation

The amount of the pedagogical moment episodes that focused on the maintenance of didactical relation was quite high. Altogether 134 episodes aimed at the maintenance of didactical relation. The teachers tried to maintain the didactical relation by *organization of teaching*. Their teaching was organized and student centered. They asked student's individual interests and noticed their experiences whenever they were relevant in relation to the content being studied. They predicted student's working and specified their instructions when it was necessary. They also strived to maintain this relation by *promoting studying*. They guided students' studying thoroughly, offered their guidance by asking questions, maintained students' working, illustrated the contents of teaching, and used suitable teaching material.

A Finnish lesson is going on in the class. The students are yawning and fidgeting around in their desks. Teacher1 comments on the students' tiredness.

Teacher1: I clearly notice, that you are a little bit tired. Let's sing a song from your ABC-book here. Take the song on view from your ABC-book.

Student1: I heard that biscuits.

Teacher1: Take the song you can see from your ABC-book.

Student1: Teacher!

Teacher1: Raise your hand up, if you have something to say. The song is on page 53. Student1.

Student1: I thought that we will eat some biscuits.

Teacher1: No, you don't get any biscuits at least yet! J

Students and Teacher1 sing the song together. After the song they go on with reading practice. (T1L2Fi, 19:47–20:18)

4.2 The contents of tacit pedagogical knowing

In order to find out the contents of tacit pedagogical knowing, the STR-interview data of four participating teachers were analyzed. Especially, those parts of the STR-interviews (1362 thought units) which were connected to the pedagogical moment episodes were analyzed.

4.2.1 Teacher's pedagogical authority

It was possible to define *teacher's pedagogical authority* as part of the content of tacit knowing from every participant's data. According to this research, the teacher's pedagogical authority means their personal commitment to the teaching profession and a teacher's responsibility for the wholeness of schoolwork. In spite of this, a teacher is not an authority in owning information or in knowing things, and s/he may make mistakes in his work. Teachers should be able to justify their own action, and commit themselves morally or ethically to different matters if it is necessary. The participants mentioned the differences between teacher's and student's roles, which do not mean that a teacher would be distant from students. Warmth and humanity were part of a teachers' pedagogical authority, which means that they respect students and are equal human beings in relation to them. When these results are compared with other researches, it is possible to perceive some similarities. Harjunen (2002, pp. 297-317; see also Meri, 1998, pp. 65-67; Buchmann, 1993, pp. 147-151; Floden & Buchmann, 1993, p. 215) in her research on teacher's pedagogical authority discusses very deeply and thoroughly the same kind of issues.

> T2: Well, that [that I said funnily that I could be that granny in the picture on the blackboard] was quite funny somehow. Well, maybe such a small ironic remark makes the students laugh, that it is somehow a forbidden area that it's not actually allowed to criticize a teacher in school. But now, when I make it by myself, it is permitted. Something like this. (T2L1Fi, 14:46–15:28, 1str, 179)

4.2.2 Student's pedagogical authority

The elements concerning the *student's pedagogical authority* included in the content of tacit pedagogical knowing of all the participating teachers. Student's activeness, presence, enthusiasm towards studying, and watchfulness were emphasised and seen rewarding for the teachers, whereas passive students were seen as concerns and challenges. Students' conscientiousness, skilfulness, kindness, and carefulness were seen to be important. The students' self-directedness and responsibility were also emphasised. It is essential that students plan, implement and evaluate their own studying and make decisions during their studying. It is clear that student's self-directedness requires teacher's trust in students, so that it can be possible. Student's responsibility goes hand in hand with self-directedness and a teacher has to give it gradually to students. For example Lattu (2003, pp. 123-126) defined the same kind of characteristics of the pupil's role from the teacher's viewpoint.

T3: These are their own work [and I don't go to dictate it]. They have… They do the planning, working by themselves… I think that I don't have any right to interfere in the structure of their work. It would be unfair, that I would ask them to create some game by themselves and invent a good idea, and then I would determine them to do something in it in some way. (T3L6ASc, 16:07–18:14, 6Astr, 373)

4.2.3 Awareness of the nature of content

Awareness of the nature of content of teaching was defined as an element of the content of teacher's tacit knowing. The nature of the content has to be clarified in one way or another for the students, and it is important to be aware of its familiarity to them. Content has to be demanding enough and it is important to take current events and changes into account in the contents of teaching. The content affects the teaching methods which are used during instruction. When these results are compared with some other current research results (cf. Rodgers & Raider-Roth, 2006; Wubbels et al., 2006) it is interesting to note that the content of teaching as such is not very often considered, but it is often intertwined with some pedagogical or didactical matters.

T3: And I just thought that a monsoon climate, for example, would be such, that it would be important, that students would understand the interdependencies of these kinds of large scientific phenomenon. So, maybe I wouldn't offer them only a book and say "Look at monsoon there." (T3L2Sc, 40:56–42-44, 2str, 120)

4.2.4 The maintenance of pedagogical relation

Maintaining pedagogical relation between teacher and students was included in the content of teacher's tacit knowing. Teacher's proper and clear intervention, which was immediate and repetitive and was focused on interrupting students' inappropriate actions and to maintaining good order in the classroom, included in teacher's *manners and habits*. Teacher's positive and supportive action from the different viewpoints was also defined. Noticing students' individuality, their opinions, and working and abilities were also emphasised. Teacher's *tactfulness* along with its occasional quality was diverse. Teacher's discretion and patient, but still spontaneous actions were parts of tactfulness. Mastering the class with gestures and expressions belong to tactfulness. Maintenance of secure and positive atmosphere, in which other persons are taken into consideration and expression of feelings is allowed, was emphasised. Richardson and Fenstermacher (2001) also discuss theoretically these same issues, but they call them teacher's manners. Sanger (2001, p. 688-695) as well as Richardson and Fallona (2001, pp. 712-713) and Fenstermacher (2001, pp. 642-648) report their empirical research results of teacher's manners and present various themes that are identical with the results of this research. Van Manen (1991b) mentions such elements of tactfulness, which are similar to the results of this research. Also, Wubbels, den Brok, Veldman and van Tartwijk (2006, pp. 417- 428) present the similar research results concerning the maintenance of pedagogical relation.

T1: Because he [Student3] has so much energy and power, so the only way to reach the results faster, in my opinion, is to encourage him positively, to notice him when

he acts and behaves properly, to produce pleasure for it in him, because he still is a boy, who wants to do things right and then of course like most children, so he wants to please. (T1L1Fi, 00:55–01:33, 1str, 312)

4.2.5 The maintenance of relation to content

The maintenance of teacher's relation to content was included in the content of tacit pedagogical knowing. *Mastering content of teaching* is a more concrete way of maintaining this relation. A teacher is aware of the aims of teaching and studying, handles the content of teaching systematically, and also most importantly, has thorough expertise of it. Teachers concentrate on the content of teaching, and specify and clarify details and the central concepts of the content. For example, Lattu (2003, pp. 99-102) presents some similar research results that concern teacher's relation to the content of teaching.

> T4: Well, there is that then [when I defined that carbon dioxide]… I tried to sum up the previous lesson for them, because this is it what we handled the previous time, that which were the terms. What is then… We discussed, that helium and hydrogen are thinner elements and so then… So, that it goes terminologically correct and similarly as during the previous lesson. Well then, I started to think about then, that maybe we didn't have this concept of a dense gas during our previous lesson. And then I thought there, what is the way now, in which I quickly can say it... Suddenly I noticed, that wait a moment, that this can lead to a too long monologue there then again, if I don't formulate it a little bit there, that... (T4L2Ph, 08:29-11:56, 2str, 53)

4.2.6 The maintenance of didactical relation

Maintaining the didactical relation between teacher and student's studying and learning was a manifold part of the content of tacit pedagogical knowing. By *organization of teaching* the teachers created the preconditions of studying and implemented teaching and instruction. Teachers clarified student's phase of thinking and specified their instructions. Interactivity of teaching and implementation of student centred teaching were emphasised. It was also essential to notice student's experiences and individual interests. *Promoting studying* meant directing the beginning of student's studying and thorough guidance of student's thinking. Illustrating contents of teaching and using literary teaching material were also mentioned. Student's working and studying was guided by asking questions, by ensuring student's understanding and by emphasising students' co-operation. For example, Rodgers and Raider-Roth (2006, pp. 279-282; cf. Fenstermacher, 2001, p. 644) have obtained similar results in their research concerning teacher's relation to students' studying and learning.

> T2: Well, it [that I present the thing in a way that Student7 has to think by himself]… Once again it is, that a child's own thinking, that it's a too easy solution, if it comes there [from a teacher]. Maybe they get used to it in the wrong way, that they could always get the answer from teacher. It is like…, I'm maybe positive towards asking, but what is the answer then, so it is sometimes thought from this way. That I present some counterquestion, and then she herself or he himself will find it. I think that it sticks better in one's mind and it is a more valuable answer than that, what could come from me. (T2L7Fig, 17:40–18:39, 7str, 89)

4.3 The Comparison between the appearance and the contents of tacit pedagogical knowing

There are differences but also several similarities in the appearance and in the contents of teacher's tacit pedagogical knowing. Tacit pedagogical knowing appears in the maintenance of the pedagogical relation with *manners and habits* and *tactfulness*; the relation to content with *handling of content of teaching*, and the didactical relation with *organization of teaching* and *promoting studying. Teacher's pedagogical authority*, *student's pedagogical authority* and *awareness of nature of content* were contents of teacher's tacit pedagogical knowing. In addition to these, the maintenance of previously mentioned relations is included in it. In Figure 3, these similarities and differences are illustrated.
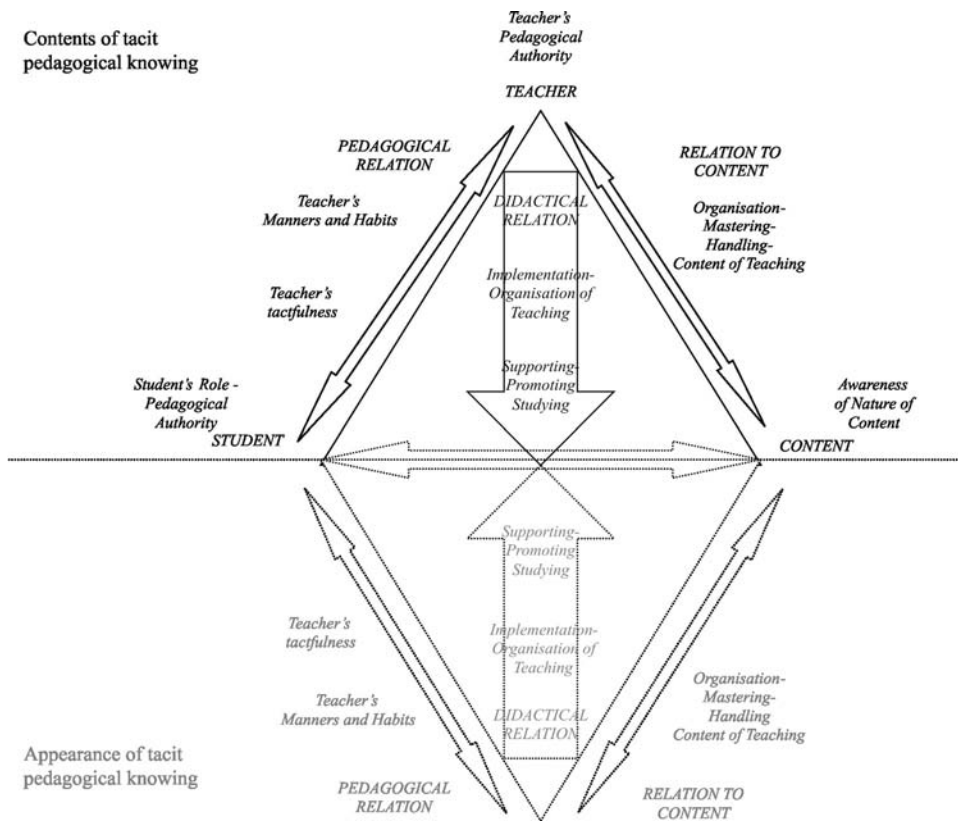

Figure 3. *The appearance and the contents of teacher's tacit pedagogical knowing.*

5. CONCLUSIONS

When the appearance and the contents of tacit pedagogical knowing are considered from the viewpoint of teacher her-/himself, it becomes clear that the phenomenon of teacher's tacit pedagogical knowing is strongly related to the issues of teacher's complicated skills with instruction and classroom management, or in other words, to skilfulness and development from novice to expert (cf. Dreyfus & Dreyfus, 1986; Brookfield, 1990; Berliner, 1995). But, even more importantly, as van Manen (1991b, p. 80) points out, the essence of a teacher or an educator does not lie in mere technical expertise, but also in a complex of pedagogical qualities and in a teacher's personality. Also, Richardson and Fallona (2001, pp. 724-725) mention that paying attention to the moral aspects of teaching and the essence of human being would be necessary as well, because there are connections between teachers' personal qualities and their classroom management (cf. Noddings, 2001). It would be reasonable to say that this level of expertise would not develop without intentional reflection on one's own practice. When teachers become more conscious of their professional actions and self, it is possible to enhance one's own tacit pedagogical knowing, develop professionally and succeed in teaching.

Tacit pedagogical knowing is an important part of teacher's professionality, so it is also necessary to consider it from the viewpoint of teacher education. Tacit pedagogical knowing cannot be acquired only through theoretical studies or only through teaching practice, but both of them are needed. Loughran (2006, pp. 45-60) emphasises that teacher educators should explicate their tacit understandings of teaching for student teachers and he proposes several different ways to do this. Burbules and Bruce (2001, p. 1105) think that there are certain areas in teacher's tacit knowing, that novice teachers can learn only by observing or listening to experts who are engaged in a complex practice and reflect openly their processes of thought and deliberation. So, the central questions are, what is the relationship between educational theory and practice in teacher education, how they are organised and what their quality is.

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Аули Тум

СУШТИНСКО ПЕДАГОШКО ЗНАЊЕ: СРЖ ПРОФЕСИОНАЛОСТИ НАСТАВНИКА

РЕЗИМЕ

Рад имао за циљ да испита интерактивно размишљање и поступање наставника, првенствено њихово суштинско педагошко знање. Суштинско педагошко знање се дефинише као процес у интерактивној наставној ситуацији који наставницима помаже да нађу решења за неочекиване и изазовне ситуације, *педагошке тренутке*, тако да се час неометано настави. Наставници су у стању да касније објасне своје суштинско педагошко знање, а такође и да га образложе. Прецизније одређен, циљ рада је да проучи појаву суштинског педагошког знања наставника и објасни његову садржину. На основу истраживања је установљен модел суштинског педагошког знања наставника. Уз помоћ тог модела могу се илустровати фактори који чине срж професионалности наставника. Овај се модел може користити и у контексту образовања учитеља и наставника.

Кључне речи: знање наставника примењено у пракси, педагошко размишљање наставника, суштинско знање и професионалност наставника.