

HANDBOOK ON TEACHING

**Teacher's strategies in classroom:
A student-teaching collection of cases from four
European countries.**

By

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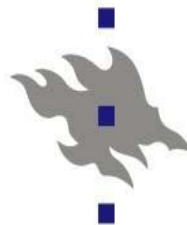
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0. Introduction

The multiple experiences in the everyday situations in the classroom reality give teachers the opportunity to put into practice the theoretical background and knowledge acquired during teacher education and professional courses. The everyday practice of teaching is the most important context of teacher learning and professional development. It challenges teachers to deal with real interactions with students or children in the kindergarten, primary and secondary schools (Saariaho et al., 2014). Through the everyday teaching practice, teachers acquire practical knowledge - the *know-how* of teaching, that is to say, the methodological strategies and patterns that they use to act within the local school contexts.

Teachers also learn continuously how to act in the organizational structures of the schools such as administrative work protocols, school norms, teaching units planning according to student needs, school dynamics and ways of relating with families and communicating important information. This continuous in depth learning is only possible through practice allowing teachers to face singular situations in multiple scenarios. Besides, there are several processes that are at play when teachers learn from practice: reflection *in* and *on* action (Schön, 1983, 1987), interpersonal skills (Feiman-Nemser & Floden, 1999), motivation (Sinclair, 2008), collaborative work (Cortez et al., 2009), personal experiences, etc. All these constitute the teaching expertise that fosters the quality of education.

This handbook describes basic knowledge upon which teachers' act at schools. Teacher's practical knowledge covers both theoretical and practical understandings on how they interpret their daily work. The types described concretize the immediate contexts – core instructional factors and core instructional processes – where teachers use their practical knowledge and interact with students in supporting their learning. Teachers need different kinds of knowledge in various phases of the instructional process. They also utilize multiple strategies in the classroom interaction with the students. These aspects related to teachers' methodological patterns are elaborated and described in this document.

1. General purpose of the handbook.

The handbook was written with the intention of collecting the type of professional knowledge that is of use to preservice teachers in different European countries. This particular knowledge turns out to be of relevance for the training of preservice teachers in the workplace also referred to as a practicum period, or the practicum for short, to learn the basics of the teaching profession in various school contexts.

The multiple experiences extracted from the practicum and other real situations give the preservice teachers the opportunity to put into practice the theoretical background learnt in their university preparation. Thus, the teaching practice seems to be a valuable component of the teacher training programs since it provides preservice teachers with the opportunity to deal with real classroom situations in primary or secondary schools. Generally speaking the ultimate purpose of the practice is for preservice teachers to acquire a more sophisticated knowledge of the school by acquiring the *know-how of teaching*.

This handbook intends to examine the action-oriented knowledge and reflective processes that preservice teachers display in practice by providing fifteen examples of teaching practices from four different contexts: Finland, Estonia, the Netherlands and Spain.

These examples come from the kindergarten through the secondary education level, in the following areas: mother tongue, modern foreign languages, mathematics, science, social sciences, arts and physical education. These examples intend to show how preservice teachers use their initial training period and the practicum, to deliver classes and create environments for learning.

More specifically, this book aims at:

1. Reporting preservice teachers' experiences in the schools during their practicum.
2. Providing direction and guidelines for the teaching processes, and teachers' performance.

3. Reporting preservice teacher's practical knowledge, reflective moments, learning styles and patterns, differences and singularity of contexts.
4. Offering illustrations of practice for assessment process in teaching and learning practices.
5. Helping to understand the ethical and pedagogical values that reflect the school social and cultural foundations of teaching.

2. Recipients.

This handbook is intended to be a comprehensive tool for preservice teachers, teachers, teacher educators and researchers who will benefit from the topics and examples contained therein.

The contents of the book connect different basic teaching notions and strategies with theoretical concepts. It is not intended to be a list of recipes or even guidelines on how to teach in different school scenarios. Practicing teachers may find them an illustration of basic teachers' strategies, resources and tools already used by other colleagues.

3. Handbook navigation.

A range of tools is used in this handbook in order to cater for different users' needs. There are digital videos attached to the description of each teaching episode that illustrate excellent sources of practical knowledge. It is not just a collection of clips or prescriptive formulae but a description of principles and strategies.

The information provided may be widely recognized in different educational contexts. Its potential value also lies in the transfer to different educational situations.

“Case Examples” and “Descriptions” for each case of the handbook should make it easy to navigate throughout the existing sources of guidance, options and advice. These examples are intended to promote further thought and discussion among educators and stimulate further action in their practices. It is recommended to read the introduction where a theoretical background and key concepts are provided. Finally, there is a topic index at the end of the handbook

The handbook is not meant to be read continuously but rather consulted as a tool to find cases of interest. Each case is accompanied by a brief description of teaching strategies used.

4. Teacher's practical knowledge.

Practical knowledge has been promoted in education as know-how strategies (*techne*) not subjected to procedures (*episteme*). However, practical knowledge needs to be studied and justified in a way that leads to a comprehensive understanding towards the learning of teaching practices (Fenstermacher, 1986).

Elbaz (1983) understands practical knowledge not only as a way of knowing how to do things but also of being aware of students' learning styles, school dynamics and community policies. Connelly, Clandinin and Fang He (1999) expand the definition to the body of beliefs, thoughts and attitudes that combines teachers' actions and principles of practice.

Besides, according to Russell (1987; see also Fenstermacher, 1994; Rosiek, 2002) not every teacher's declaration can be associated with practical knowledge. In order to reach this stage teachers' beliefs and thoughts need to be grounded in critical thinking, reflection or action-research processes. In this sense, practical knowledge is not always accessible unless teachers are triggered to problematize their practice and reflect upon it (Shulman, 1987).

4.1. Types of practical knowledge.

We have drawn upon a model of six categories of practical knowledge ranging from less complex to more complex ways of eliciting practice: recalls and appraisals (narrative knowledge), rules and artifacts (inferential knowledge), and practical reasoning and theoretical reasoning (justified knowledge). Definitions of the six categories are presented in Figure 1.

	<i>Definition</i>	<i>Example</i>
<i>Recalls</i>	direct reproductions of what has been experienced, that is to say, images from the lesson as recalled from memory	<i>“I changed the classroom distribution twice”.</i>
<i>Appraisals</i>	Constitute evaluations or value judgments of the action that is being recalled.	<i>“The round of questions was difficult because the students had not reviewed the contents”</i>
<i>Rules or practical principles</i>	Methodological strategies that preservice teachers extract from their experiences	<i>“It is important that pupils understand the story plot by associating each character with a single attribute”.</i>
<i>Artifacts</i>	instruments and physical supports teachers envisage from what they have experienced	<i>“I would repeat the explanation at least twice: one at the beginning of the class and another one once they have done the exercises”</i>
<i>Practical justifications</i>	Teachers give practical arguments for their claims based on their experiences	<i>“I called the pupil by name during the lesson, because it was the only possible way to gain her attention.”</i>
<i>Theoretical justifications</i>	Teachers give theory-related arguments for their claims based on their experiences.	<i>“I asked questions related to the math task, because I know that it is one way to guide pupil within her zone of proximal development.”</i>

Figure 1. Description of the categories used in the present study. (Fenstermacher, 1994; Mena, García, Clarke, & Barkatsas, 2015; Toom, 2012; Meijer et al., 2014).

4.2. A contextual framework to position teachers’ practical knowledge.

Practical knowledge can be easily contextualized within the so called model of the instructional core of the teaching practice (Herbart, 1835; Kansanen & Meri, 1999; Toom, 2006; Patrikainen, 2012). It basically consists of the interplay of three major elements (see figure 2): The teacher, the student and the content.

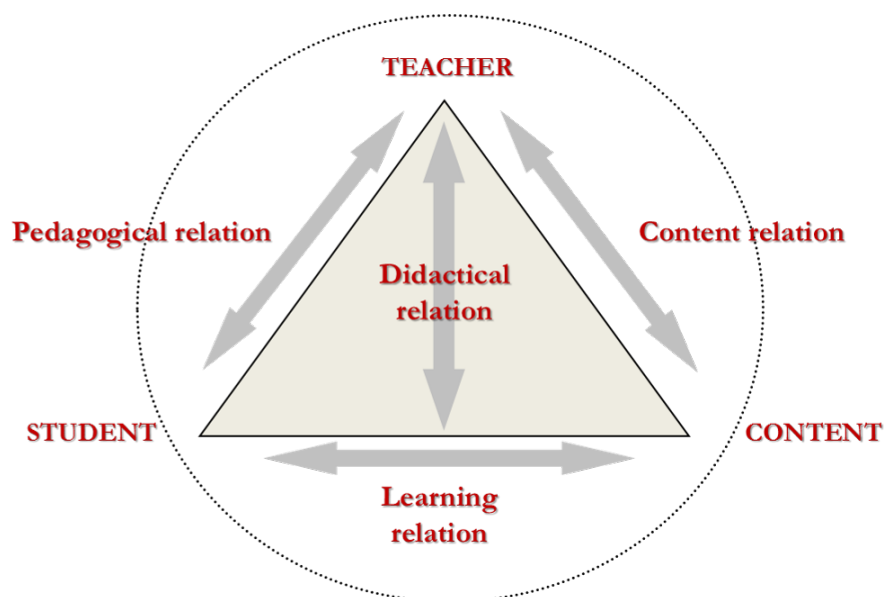


Figure 2. Representation of the instructional core model (cf. Herbart, 1835; Kansanen & Meri, 1999; Toom, 2006; Patrikainen, 2012)

As shown in Figure 2, any teaching episode that the preservice teachers experience, and any piece of knowledge they may acquire in the context of practice, entail a relationship between two or more of the elements listed above. We can distinguish four such relations in the classroom:

- ***Pedagogical relation*** (TS) between the teacher and the student: This relation describes the interaction between the teacher and the student and is an essential prerequisite for teaching-studying-learning process to take place. The teacher is a knowledgeable adult on whom students depend in many ways: it is an asymmetrical relation. Klafki (1970, pp. 58-65; see also Kansanen, 2004, pp. 76-78; Toom, 2006) has summarised the essential characteristics of pedagogical relation into six basic principles.

(1) When there is a pedagogical relation between the teacher and the student, teacher helps the student with tasks, shows acceptance and appreciation, inspires and encourages the student. The teacher's main goal is to act in the best interest of the student.

(2) "The best interest of the student" is typically tied to time, place and social situation, so it is important to discuss its meaning every time.

(3) The pedagogical relation is an interactive relationship, rather than just the teacher influencing the student. The teacher has to take care of the student; help and encourage him or her in an altruistic way. Student, for her or his part, has to trust on adult.

(4) The teacher cannot force student into pedagogical relation. Manipulation or insincerity do not belong to pedagogical relation. In the best case, the positive atmosphere and voluntariness dominate in pedagogical relation.

(5) A typical characteristic of pedagogical relation is its impermanence, and this aspect has to be understood from the beginning of the relationship. Pedagogical relation has to change while a student person grows and it strives to become unnecessary. Student learns, develops and becomes more independent and mature, and her or his break away from this relation turns out to be possible little by little.

A teacher's deliberate reservedness and certain distance towards student is needed, in order to make this all happen. (6) The pedagogical relationship is oriented towards the future. A teacher supports a student's studying and learning at the present moment, and focuses also forward to her or his future. From this viewpoint, it is important that an adult trusts young person's abilities, possibilities and success.

- **Content relation** (TC) between the teacher and the content: Teacher has relation to content that she or he is teaching. As Kansanen and Meri (1999, p. 113) mention, this aspect focuses particularly on teacher's competence and expertise in content. Generally, it means discipline-based content knowledge that relates primarily to curriculum questions rather than to questions of general pedagogy. Questions about special nature and structure of each subject, their different approaches to the phenomena, as well as their mutual connections are all seen as content relation.
- **Learning relation** (SC) between the student and the content: This relation encompasses students' conceptions, attitudes and experiences of different subjects as well as their motivation for them. As Kansanen and Meri (1999, p.

113) point out, this relation manifests itself as student studying behaviour and learning in student's mind. The relation between student and the content plays an extremely important role in achieving learning.

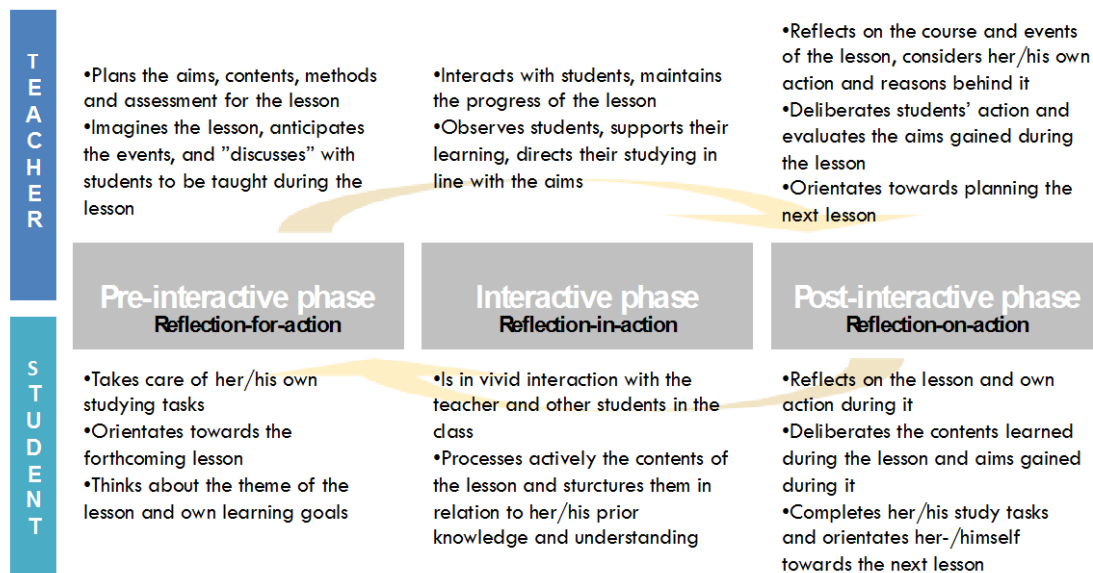
- ***Didactical relation*** (TL) between the teacher and the students' learning: In the school context, both teacher and students are oriented to the same content matter, and in addition to this, the teacher is oriented to teaching the student. Kansanen and Meri (1999, pp. 113-114) explain the didactical relation as the one a teacher has to student's relation to content – in other words to student's studying and learning. The didactical relation and teacher's understanding of it is the core of teaching-studying-learning process. The didactical relation captures the teacher's main task in school, teaching. This perspective covers in particular those actions that teacher does in his or her individual way to promote students studying and learning, e.g. guidance, questioning or explaining.

5. Differences of practical knowledge in various phases of teaching process.

5.1. The phases of the teaching process.

Practical knowledge can be prompted in different phases of teaching. Traditionally, Jackson (1968) distinguishes between “pre-active” and “interactive” phases of teaching. The former refers to any plan and selection of teaching methods and materials whereas the latter entails any action or event that occurs when the lesson is delivered in the classroom. Furthermore, Clark and Peterson (1986) proposed the “post-active” phase, a moment reserved for the evaluation of practice and reflection upon what has been done. This is what Schön (1983) has extensively described as reflection *on* action, a period of being aware of what has been performed during the lesson in order to improve it in future teaching. The different phases of instructional process also require different practical knowledge of teachers that they use in order to complete the activities and tasks in each phase (see Figure 3).

THE CORE OF TEACHING SKILLS: THE PHASES AND PROCESSES OF INSTRUCTION



(e.g. Clark & Peterson, 1986; Schön, 1987; Kansanen et al. 2000; Toom, 2014)

Figure 3. The phases and processes of instruction (cf. Clark & Peterson, 1986; Schön, 1987; Jackson 1968; Toom, 2014).

In *the pre-interactive phase*, teachers define the specific aims for student learning, choose the teaching methods and materials, plan the instructional activities, think about the details of the lesson and make the necessary preparations for teaching and learning. They also anticipate the possible student reactions and evaluate the time required in the various phases of the lesson. The knowledge required from teachers is especially related to contents, teaching methods and materials as well as understanding of student learning.

In *the interactive phase*, teachers follow their more or less detailed lesson plan and do their teaching in order to promote student learning. They interact with students and try to ensure that the intended aims are gained and activities are covered during the lesson. Teachers are responsive to students' needs; they evaluate student reactions and try to make sure that they provide required support for student learning for understanding the topics and tasks that were planned for the lesson. In this phase, the knowledge required from teachers is related to use of teaching methods and materials, responding to students' needs in the immediacy of the lesson as well as understanding and interpreting the students behavior in classroom interaction.

In *the post-interactive phase* after the lesson, teachers more or less consciously evaluate the lesson, their own performance and success and especially the students' learning during the lesson. They elaborate how their lesson plan was actualised in the interactive phase, and how the intended aims were reached during the lesson. They also think about their observations in the class, the students' reactions in the learning tasks and informal feedback that they collected during the lesson, and evaluate the course of the lesson. All these post-interactive reflections and evaluations provide teachers with possibilities to plan the next lesson, revise the intended learning tasks of students and make preparations for the future. The knowledge required from teachers is especially related to evaluation of the lesson as a whole, assessment of students' and their own behavior, interpretation and understanding of their own feelings concerning the lesson as well as being able to draw conclusions and decisions concerning the next lesson. The various phases of the instructional process require multiple knowledge and skills of teachers.

5.2. The guided reflection procedure as a way to elicit practical knowledge in the different phases of teaching.

In order to facilitate, and probably accelerate the process of eliciting practical knowledge by the preservice teachers along the three teaching phases we use the Guided Reflection Procedure (Husu, Toom & Patrikainen, 2008). The model consists of four delimited steps (see figure 4): (1) video-recording of a class lesson; (2) selection of two meaningful events or critical incidents, within a time span of two days. These two critical incidents, one empowering and one challenging are foremost occurrences of the lesson as perceived by the students teachers; (3) reflections about the critical incidents (see figure 1). For this last (analytical phase) three conditions may be used: (a) individual reflection on action; (b) peer reflection, and (c) mentor-guided reflection. Finally, at the end of the process the participant preservice teachers submit 4) an individual written reflection following the guidelines facilitated by university-based teacher educators. The guidelines, as suggested in the ACTTEA Project (see e.g. Husu et al., 2008; Leijen et al., 2014; Leijen et al., 2015), invite to relate theory and practice in the different subjects of the practicum and to think about what they learn from the experience with the ultimate purpose of applying it in future teaching.

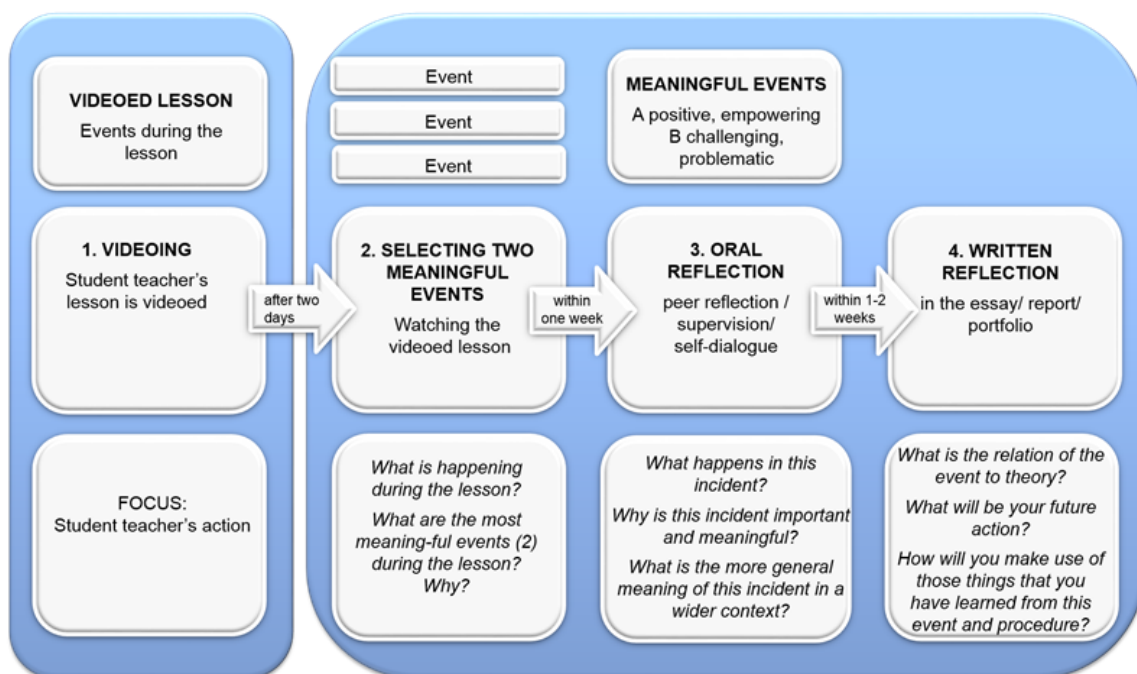


Figure 4. The ACTTEA Guided Reflection Procedure (Leijen et al., 2014). Based on Husu, Toom & Patrikainen (2008)

6. Methodological patterns and teaching strategies in the interactive phase.

Teaching strategies are understood in this handbook as practical principles teachers use to promote classroom pupils' learning. They typically include instructional and motivational approaches that meet specific learning objectives and eventually determine teaching styles or patterns. All the recorded lessons belong to the interactive phase as proposed by Jackson (1968). We focus on teaching strategies that were triggered in the interactive phase (Jackson, 1968) since the material collected is about lessons that preservice teachers prepared to deliver in the practicum of the degrees in Early Education, Primary Education and Secondary Education. Thus, all of the strategies focus on events that occurred when the lessons were taught. In other words, classroom events raised teachers' awareness of the situation (reflection in action) and lead them to act according to their observations. Those behaviours are identified as teaching strategies. Nonetheless, the interactions are connected to the planning phase since the lessons were designed in advance.

6.1. Description of the methodological patterns.

We refer to methodological patterns as a set of teaching strategies that occurred when delivering the lesson. We have considered that teaching strategies may be divided into three major patterns:

- 6.1.1. *Engaging.*** Stimuli used by teachers to catch the students' attention before explaining new contents. They are meant to prepare students for the contents of the lesson.
- 6.1.2. *Maintaining.*** Teachers' actions related to the instructional part of any lesson or teaching process, that is to say, the new ideas or contents that class students have to learn.
- 6.1.3. *Closing.*** Part of the lesson used by teachers to wrap up an idea, recapitulate a concept or give feedback.

The three terms, engaging, maintaining and closing have been chosen based on the empirical data collected in the ACTTEA project and by taking into account educational context.

Within the three patterns, sets of teaching strategies can be used. We found in our dataset that preservice teachers mainly use the following eleven strategies: classroom management, engaging learners, giving instructions for task, guiding group/individual students' work, explaining/demonstrating content, instructional discussion, giving feedback, attention to learners' individual needs, creating pedagogical atmosphere, organizing physical environment or materials, and managing contents.

6.2. Teaching strategies

Teaching strategies are often viewed as concrete methods or instructional techniques to deliver content matter and facilitate student learning. In this teaching strategies pack, teaching strategies are considered as any activity regarding content relation, pedagogical relation and/or didactical relation (see section 1) that teacher initiates in order to support student learning and thus the achievement of selected learning outcomes. Based on empirical data in the ACTTEA project, eleven strategies were identified that teachers often use when guiding and facilitating student learning:

- 1) classroom management – activities related to managing and maintaining discipline;
- 2) engaging learners – activities related to motivating student, keeping them interested and involved;
- 3) giving instructions – activities related to explaining the task or actions students need to take;
- 4) guiding group/individual work – activities related to supporting students during individual or group work;
- 5) explaining/demonstrating content – activities related to explaining the content and/or using materials to illustrate it;
- 6) instructional discussion – activities related to questioning and using discussion to guide students learning;
- 7) giving feedback – activities related to responding to students' answers and actions;

- 8) attending to learners' individual needs – activities related to taking into account the differences in students' learning, prior knowledge and needs when guiding student learning;
- 9) creating atmosphere – activities related to creating a safe and positive environment for learning;
- 10) organising physical environment/materials – activities related to organising the classroom and the materials;
- 11) managing content – activities related to dealing with the gaps in the content knowledge, planning the content and covering important aspects of the content.

The abovementioned teaching strategies can be used to enhance different relations within the instructional core of teaching (see section 1) and during different stages of interactive teaching (see section 2) (see figure 5).

Nevertheless, no single teaching strategy alone is sufficient to support every student's learning at all times in every context. Rather, those teaching strategies together form a set of strategies that can be used as grounds for effective teaching. Keeping in mind the planned learning outcomes, the specific demands of the content, the context in which learning takes place and the individual needs of students, teacher can use, combine, and adapt different teaching strategies to best support student learning.

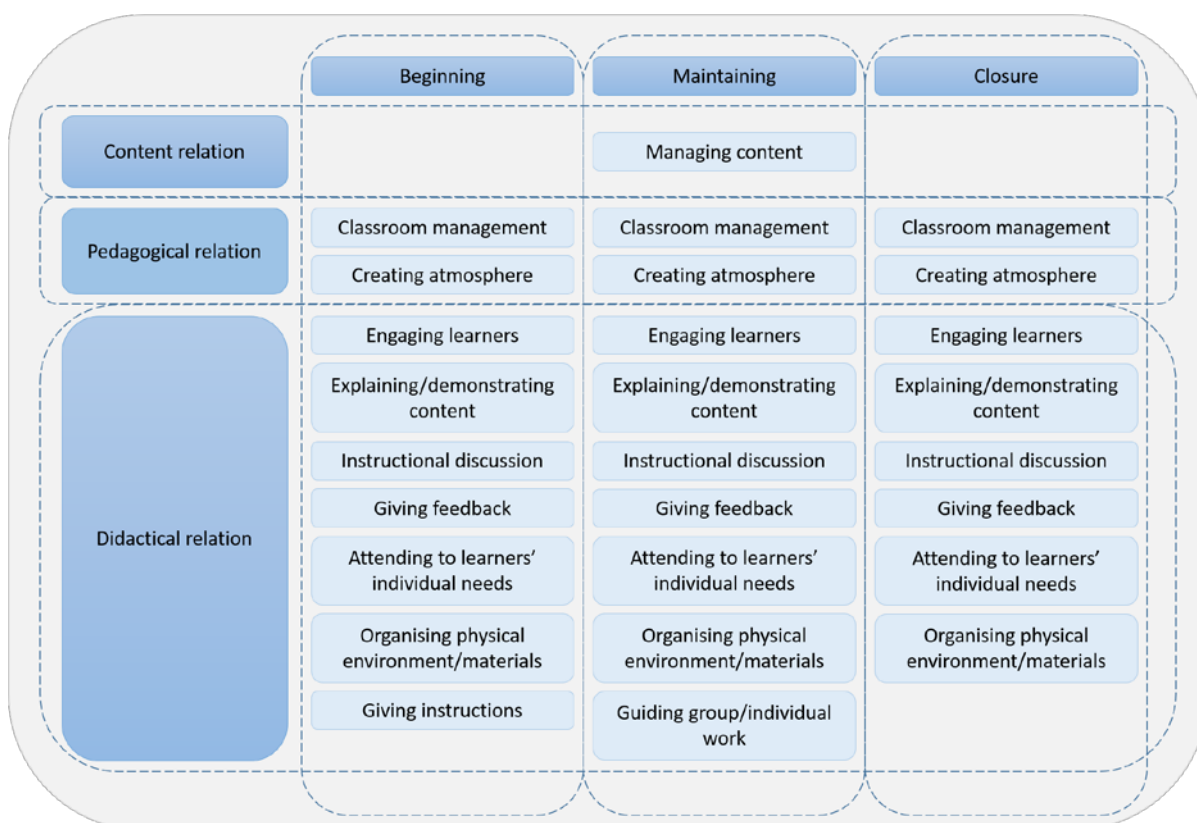


Figure 5. The set of teaching strategies within the instructional core and stages of interactive teaching

Next, the possible use of the eleven teaching strategies within different relations and within different stages of teaching will be introduced. The aim of these illustrations is not to give an exhaustive list of all the possible activities, but to give concrete examples to better understand the diversity of the teaching strategies in different conditions.

Pedagogical relation – between teacher and student

1) Beginning stage

- Classroom management – At the beginning of the lesson teacher calls for silence and announces the programme of the current lesson.
- Creating atmosphere - At the beginning of the lesson teacher chats with the students about the lesson in the previous period.

2) Maintaining stage

- Classroom management – During group work teacher reminds students of the remaining time and makes sure that everybody's work is in progress.

- Creating atmosphere – teacher can create a positive atmosphere for learning during the lesson by recognising openly his/her mistakes or mix-ups, thus making clear that making mistakes is fine as long as they keep trying.

3) Closure stage

- Classroom management – Teacher ends the lesson by calling for silence and asking students to remain seated until the bell goes.
- Creating atmosphere – At the end of the lesson teacher evaluates student application and makes sure to include praise..

Didactical relation - between the teacher and the students' learning

1) Beginning stage

- Engaging learners – Teacher engages learners at the beginning of the teaching episode by asking students to recall and formulate what was learnt in previous lesson.
- Giving instructions – Teacher supports student learning at the beginning of the learning activity by giving clear instructions on what students need to do and if necessary by giving the instructions in written form so that students can follow these in their own pace.
- Explaining/demonstrating content – Teacher explains the content at the beginning of the lesson by using small concrete objects as demonstration material in order to explain thoroughly the content being studied.
- Instructional discussion – Teacher holds an instructional discussion at the beginning of the lesson by asking students to recapitulate the content of the previous lesson and adding the missing information by asking follow up questions.
- Giving feedback - Teacher can start a lesson by giving feedback on how a test or a homework went in general, pointing out what went well and what needs to be yet improved..
- Attending to learners' individual needs – At the beginning of the lesson, teacher clarifies the core idea of the task by approaching it from different perspectives, provides various explanations and questions in order to make sure that the student understands the task.

- Organizing physical environment/materials – Teacher starts a lesson with handing out supplies for each group of students that will support their learning during the lesson and make the group work smoother.

2) Maintaining stage

- Engaging learners – Teacher can engage learners during the lesson by enabling them to put the knowledge to practice if possible, e.g. when teaching different ways to breathe, having students try abdominal and chest breathing.
- Guiding group/individual work - Teacher guides students during the lesson by monitoring pair work by way of walking around, listening in, and intervening where needed.
- Explaining/demonstrating content – Teacher supports student learning during the lesson by explaining the content once again, and pointing out the most common misunderstandings.
- Instructional discussion - Teacher carries out an instructional discussion during the lesson by asking questions about the differences between the two historical periods.
- Giving feedback – Teacher gives feedback during the lesson by way of praising original answers.
- Attending to learners' individual needs – Teacher supports students' learning during the lesson by providing enough time for them to answer and by offering them suitable guiding questions and prompts.
- Organizing physical environment/materials – Teacher provides copies of geographical maps of two different historical periods.

3) Closure stage

- Engaging learners – Teacher engages learners at the end of the teaching episode by asking different students to summaries and point out what was learnt during the activity and asking the whole class' approval of what has been said.
- Explaining/demonstrating content – Teacher recapitulates the core concepts dealt with at the end of the lesson.

- Instructional discussion –At the end of the lesson teacher asks a student to recapitulate the main substantive points of the lesson and asks others to join in.
- Giving feedback – Teacher uses a game at the end of the lesson (e.g. quiz show) to evaluate students' learning.
- Attending to learners' individual needs – At the end of the lesson, teacher asks if there are any questions left that need to be clarified or explained.
- Organizing physical environment/materials – Towards the end of the lesson, teacher initiates a game involving movement around the classroom in order to evaluate student learning.

Content relation - between the teacher and the content

Content relation is characteristic for maintaining and closing stages of teaching episodes and the main teaching strategy in content relation is managing content.

1) Maintaining stage

- Managing content – Teacher can manage the content during the lesson by using a power point slides with the lesson content and important information that students might ask during the lesson.

2) Closing stage

- Managing content - Teacher can manage the content at the end of the lesson by noting down the student questions that s/he cannot answer straightforward and by promising to look up the necessary information before the next lesson.

7. Case examples

In this section fifteen cases will be described from four different educational contexts, the Netherlands, Estonia, Finland, and Spain. These cases constitute single episodes from full teaching lessons that were selected by both preservice teachers and mentor teachers according to what they considered to be critical incidents. We will illustrate each of the fifteen cases following the subsequent scheme:

1. Lesson description
 - 1.1.Context of the lesson.
 - 1.2.Teaching Strategies linked to the lesson episode.
2. Practical knowledge associated to the incident.
3. Implications for teaching practice.

Case 1. Demographic transition model.

1. Lesson description.
 - 1.1. Context for the lesson.

This video clip is from a geography lesson to the fourth year students of pre-university secondary education (fifteen-year olds). The whole lesson took fifty minutes. The preservice teacher, gave instruction about demographic transition. She is in the second half of her university based one-year secondary teacher education programme.

The teacher takes the video clip as an example of a successful preparation of the content. In preparation for the lesson, she produced a slide with a demographic transition model and looked up the information in anticipation of students' questions. The meaningfulness of this fragment consists for her in seeing how she brings the preparation to fruition.

She was pleased with how she explained the concept on the basis of the model and the prepared examples. She was also happy about the attention she captured and maintained throughout the explanation. The clip illustrates a content relation (TC) in which the teacher uses her expert knowledge of the concept in order to present the information about it which she deems relevant to students' understanding.

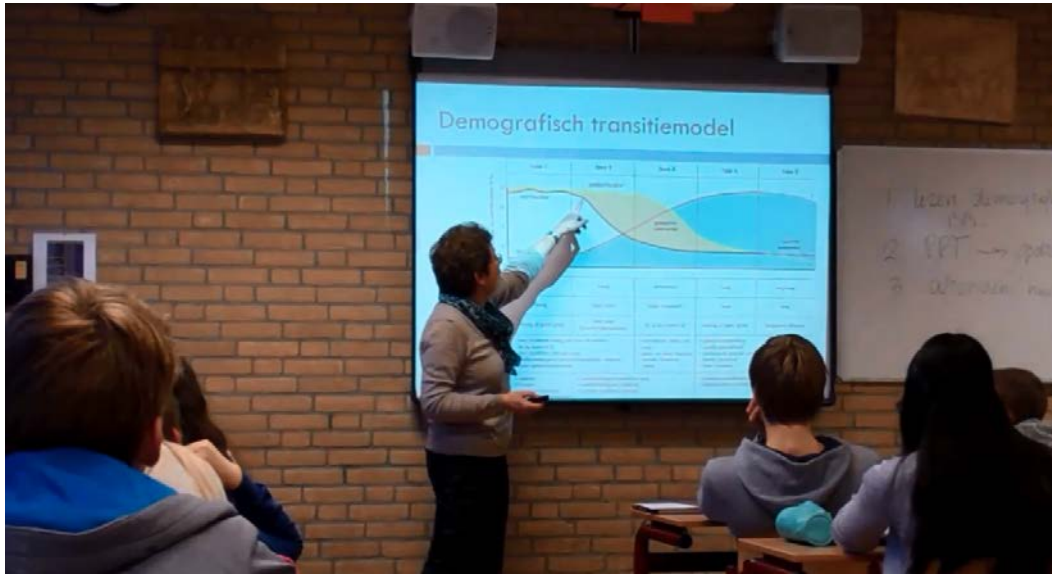


Figure 6. Geography preservice teacher demonstrating demographic transition model.

1.2. Strategies.

In the selected video clip the strategy that the preservice teacher used was “explaining/demonstrating content”. The teacher maintains student attention and interest by regularly looking at the students and by pointing to the corresponding parts of the slide as her explanation progresses.

The strategy can be grouped under the methodological pattern of maintaining.

2. Practical knowledge associated to the incident.

A few weeks following the lesson, the preservice teacher had a supervisory talk of about twenty minutes with her university-based mentor. The following extracts of the conversation illustrate some of the practical knowledge that emerged from this particular positive critical incident:

- *Mentor: What can you see yourself doing? And what are the students doing?*
- *Student: I am explaining. I am standing in front of the class, telling about what is on the slide and pointing to the slide. The students are listening in silence.*
- *Mentor: What do you think makes them listening to you?*
- *Student: I am pointing to the slide while explaining and regularly looking at them. And I am using an example. This way I am holding their attention.*

- Mentor: Indeed! If your visuals are well prepared, and you have examples to illustrate you meaning, you will better hold the attention of your audience. Keeping an eye contact is also a way of holding somebody's attention.

The mentor elicits student's observations of her behavior and that of the students. Guided by the mentor's question about the causal relation of the two behaviors, the student concludes by stating what can be seen as practical knowledge. The mentor reaffirms that by stating a rule.

About a week later in her written reflection, the student wrote: *'I was not aware of how important it was to prepare well the content of the lesson. Only after I had discussed the fragment with my mentor did I realize why the explanation went well. I prepared not only a clear presentation of the model, but I also prepared examples which made clearer to my students what I meant and that is why they kept paying attention.'*

3. Implications.

This case makes it clear how important it is for preservice teachers to realize the strong points of their teaching. Realizing how important preparation is, and how helpful examples are to convey her meaning, is likely to encourage the student to prepare her lessons conscientiously in the future, including selecting examples in advance.

Case 2: Vocabulary learning strategies.

1. Lesson description.

1.1. Context of the lesson.

This video clip is a German lesson to the first year students of pre-university secondary education (twelve-year olds). The whole lesson took fifty minutes with the topic 'word-webs'. The preservice teacher introduced the topic by first asking students to individually think of five strategies of learning new words. She then held a class instructional discussion as shown in the video clip. The student was in the second half of her university based one-year secondary teacher education programme.

The preservice teacher presents the video clip as an example of successful instructional discussion with a whole class. By asking questions and follow-up

questions, she mainly uses the input from the students. She organizes the resulting content on the board. The meaningfulness of this fragment consists for her in seeing how much content a class can produce when asked the right questions and when listened to.

She was rather pleased with how easily the discussion went. The students were paying attention and participated enthusiastically, causing minimal divergence from the line of the discussion. The clip illustrates a pedagogical relation (TS) in which the teacher trains her students' metacognitive skills; by discussing their learning strategies with them, she teaches them how to learn in future.



Figure 7. German preservice teacher holding a class instructional discussion

1.2. Strategies.

In the selected video clip the strategy that the preservice teacher used was “instructional discussion”. The teacher maintains student attention and interest by carefully and actively listening to and demonstrating a genuine interest in what her students say. She regularly checks if he understood a student’s meaning and asks follow-up questions. In this way she manages to maintain the interest and attention of the whole class (the methodological pattern of maintaining).

2. Practical knowledge associated to the incident.

A week following the lesson, the preservice teacher had a self-dialogue of about twenty minutes. The following extracts of the dialogue illustrate some of the practical knowledge that emerged from this particular positive critical incident:

(1) I think the students are motivated and interested because they take it (learning how to learn vocabulary) as a help: they learn a method of how to learn for their test.(practical justification).

(2) If pedagogy as in allowing students to be creative, paying compliments on good ideas, and didactics as in teaching meaningful word-webs come together, one can count on a successful lesson.

The preservice teacher provides practical justification in (1) for the enthusiastic and orderly course of the class discussion: students felt motivated because they felt they were learning something useful – a way of learning well for the test. In (2) she derives a rule as a piece of practical knowledge that will sustain her in future preparations and teaching: if one combines a number of factors, one is guaranteed a good lesson.

About two weeks later in her written reflection, the student wrote: *'In the class instructional discussion about strategies how to learn new words, I and the class were constructing knowledge together which is important for improving student learning processes (Bruner, 1990; Mercer, 2000).* Here, she relates the theory the practical knowledge she derived to what she successfully did in the classroom.

3. Implications

This case makes it clear how teacher's enthusiasm gets met by student enthusiasm and motivation when they feel the teacher is genuinely interested in what they have to say and know the goal and use of what they are learning.

Case 3: Geological time scale

1. Lesson description.

1.1. Context of the lesson.

This video clip presents a geography lesson to the second year students of vocational secondary education (thirteen-year olds). The whole lesson took forty minutes and dealt with the topic of 'geological time scale'. The preservice teacher had prepared a slide with geological time scale and had brought a fossil of a sea urchin to class. She introduced the topic by having students pass the fossil on from hand to hand and then continued by holding an instructional discussion about the slide. The student was in the second half of her university based one-year secondary teacher education programme.

The preservice teacher presents the video clip as an example of an unexpected situation. She had not expected that otherwise a very busy class with a lot of disruptive behaviour would remain silent throughout her presentation. She chose to discuss this video clip in order to find out how this had happened. It was this that made this fragment meaningful to her.

She was unmistakably pleased with how easily the presentation went. The students were focusing thus causing no distractions. The clip illustrates among others a content relation (CT): the teacher's expertise on the subject is so great that she can make didactic choices and interventions on the spot depending on the reactions from her students.



Figure 8. Geography preservice teacher explaining geological time scale

1.2. Teaching strategies.

In the selected video clip the strategy that the preservice teacher used was “explaining and demonstrating the content”. The teacher maintains student attention and interest by eliciting their prior knowledge and weaving it into the fabric of her presentation (the methodological pattern of maintaining). While holding her presentation she keenly observes the students’ reactions and elicits short answers fitting into her story. At the end of the presentation, she answers students’ questions about the slide. The questions testify student engagement and interest.

2. Practical knowledge associated to the incident.

A week following the lesson, the preservice teacher had supervisory dialogue with a school-based mentor lasting for about twenty minutes. The following excerpts from the dialogue illustrate some of the practical knowledge that emerged from this particular positive critical incident:

Student: I wonder how come they are listening here (in this video clip). How do I do it? What is it I do that makes them listen to me? I can easily finish my story.

Mentor: I think there are at least two ingredients through which they stay with you with their attention, first you have a picture, which is very clear and well visible; and (second), you are using it in your presentation. This is why your story keeps foothold even when there is a bit of noise going on.

The preservice teacher wonders what lies behind her success in holding her otherwise disruptive students’ attention. The mentor provides practical justification for it. This type of practical knowledge implicitly contains a principle or rule: clear visuals used in one’s presentation will hold your students’ attention.

About two weeks later in her written reflection, the student wrote: *‘This is a clear cut case of high leading teacher status in the Roos of Leary: I am the leader and you listen to me. This is a direct consequence of the teaching method which is an in front of class presentation. Ebbens labels this (method) as teacher-directed learning. I (the teacher) decide how and what through pre-planned questions during the presentation.’*

3. Implications

This case illustrates the importance of good preparation through keeping in mind your audience. Preparing in advance questions that would elicit the students' prior knowledge is vital to keeping student attention and interest.

Case 4. Correcting a mistake.

1. Lesson description.

1.1. Context for the lesson

It is a social studies lesson for 6th graders (12 year old students). At the moment the event took place, the lesson had lasted approximately 20 minutes (the lesson lasted 45 minutes). The preservice teacher was discussing different categories of verbal and non-verbal communication with the class. The students were making a mind-map based on this discussion. The teacher was in the final phase of two year master teacher education programme and she was being prepared for becoming a subject teacher.

The teacher interrupts students' work to draw their attention to a mistake that she had made when discussing the different categories of verbal and non-verbal communication. She chose this event because it was important for her to be able to admit her mistake and give it a positive ending. This event of the teaching lesson is presents a pedagogical relation, that is to say, an event that occurred between the preservice teacher. In the below screenshot (see figure 1) the meaningful event is captured in an image that gives us a quick insight of what happened in the described situation.



Figure 9. Preservice teacher, KR, delivering the lesson (screenshot).

1.2 Strategies.

In the selected event the strategy that the preservice teacher used were *creating atmosphere* and *managing content*. The teaching strategy *creating atmosphere* can be used at different stages of lesson and it describes the interaction between teacher and students that is an essential prerequisite, so that teaching-studying-learning process is generally possible. In this event, preservice teacher is creating a positive atmosphere for dealing with mistakes and errors, setting an example for students that it is natural to make mistakes and demonstrating how to act in this kind of situations.

In addition, this event is a good example of the teaching strategy *managing content* that is typically characteristic to the managing stage of lesson and describes the relation between the teacher and the content. In this event, preservice teacher shows how to manage content-related mistake during the lesson.

Both of these strategies can be grouped within maintaining a methodological pattern of creating atmosphere and managing content.

2. Practical knowledge associated to the incident.

After delivering the lesson, the preservice teacher carried out an oral reflection in a form of self-dialogue. The following extracts of the oral reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

[What makes the incidents meaningful for you?] Well I think that, for every teacher it is difficult maybe to admit your mistakes and well I think that it happens to everybody. That sometimes it just happens like that, ..., but to admit it and correct it in front of everybody, this is a bit more complicated task. This is why I chose this, ..., to come out of this situation positively.

[Which pedagogical skills are addressed in the incidents?] Well definitely this, that you are honest to students, you admit your mistakes and at the same time, if they see that you made a mistake and admit it, that you are kind of an example to them. If for them in life or in future happens the same think that they make a mistake by accident, and then they will correct it in the same way peacefully. I

think that it is good to see that teacher is a human and teachers can make mistakes, you just need to be honest and admit your mistake.

During her oral reflection, preservice teacher expressed the principles and rules based on her practical experience that are important for her as a teacher and that will guide her decisions and actions as a teacher.

The following extracts of the written reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

[Which pedagogical skills were discussed in the conversation?] Self-analysis is important. That is to say, in this event, if it happens, that teacher makes a mistake, then you have to think, how to correct it and definitely noticing the mistake is also an important skill. When the situation is solved, then you have to think, if the situation was solved positively and conclusively.

[What would be your future action regarding the new knowledge?] I think that novice teachers do not want to make mistakes and they are afraid of how the class will react to it. However, it is good to know, that even when it happened again, then I would know how to act and I would be able to manage. This feeling gives novice teacher confidence and diminishes the fear of making mistakes.

In her written reflection, preservice teacher expressed what she had learned from this event and her consciousness of how and why to act in similar situations in the future.

3. Implications.

Overall, analysing the event gave preservice teacher self-confidence and knowledge how to act in the similar situations in the future.

Case 5. Reporting an experiment

1. Lesson description.

1.1. Context for the lesson

It is a discovery-learning lesson in science for 4th graders (10 year old students). The event took place 30 minutes into the lesson. The whole lesson lasted 45 minutes.

The preservice teacher is building a report on an experiment the students have carried out. She is guiding students in pointing out what they have noticed during the experiment. The preservice teacher is in the middle of five year integrated teacher education programme and being prepared to become a primary school teacher.

The teacher asks students what they noticed when they carried out the practical experiment. She chose this event because students were very active and she felt that this motivated her. This event of the teaching lesson is positioned as a didactical relation, that is to say, an event that occurred between the teacher and the students' learning.

In the below screenshot (see figure 2) the meaningful event is captured in an image that gives us a quick insight of what happened in the described situation.



Figure 10. Preservice teacher, KR, delivering the lesson (screenshot).

1.2. Strategies

In the selected event the strategy that the preservice teacher used was *engaging learners*.

The teaching strategy *engaging learners* can be used at different stages of lesson and it describes the relation that a teacher has to student's relation to content – in other words to students' studying and learning. In this event, preservice teacher actively engaged students in formulating knowledge she aimed the students to acquire from

doing the experiment. The strategy can be grouped within closing a methodological pattern of engaging.

2. Practical knowledge associated to the incident.

After delivering the lesson the preservice teacher had an oral reflection in a form of a peer dialogue. The following extracts of the oral reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

Preservice teacher: This was really that joint discussion, it was not like teacher asks and one student answers. It was not like a test, it really was a discussion with the whole class. Because it is logical that they will reach the same conclusions, maybe not everybody knew how to bring it out or did not know how to notice it. But yes, teacher asked, students answered and teacher wrote the answers down, as if teacher got the information from the whole class.

Peer: And none of the answers were actually wrong, because maybe one student noticed something that the other student did not.

Preservice teacher: Yes, they had probably understood the concept how this kind of reporting takes place, because they have had many discovery learning lessons and they know how it is done.

Peer: That all the answers will be written down.

Peer: What have you learnt from this event so far?

Preservice teacher: I think that with this whole discovery-learning lesson I learnt how to guide and lead students. If in other lessons there are certain criteria regarding that, do this task now or that task, then in learning by discovery there are also these, but pretty much students had to reach the answers by themselves ... and this is what I learnt from this whole lesson that you have to give students a choice or freedom to answer before teacher says anything, because even if they give a wrong answer, it's nothing ...

During her discussion with a peer, the preservice teacher sought for the reasons behind the meaningful event going so well. She also formulated principles and rules based on the practical experience that were important for her when carrying out a discovery-learning lesson.

The following extracts of the written reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

[How does literature support your causal explanation?] Because I was quite active in front of the class and I asked students questions that were on different levels (not only if-questions), then students were able to be quite active when answering. At the same time, I asked different students, so that everyone could be active. Because students were active and raised their hand, then I was able to ask different students.

In her written reflection, the preservice teacher connected the knowledge that she acquired based on her practical experience with her theoretical knowledge and explained the reasons why the event went well.

3. Implications.

Overall, analysing the meaningful event, helped preservice teacher to understand the reasons behind the success of an event.

Case 6. Guiding the deduction of a rule

1. Lesson description.

1.1. Context of the lesson.

It is an Estonian language lesson for 4th graders (10 year old students). At the moment the event took place, the lesson had just started (the lesson lasted 45 minutes). The preservice teacher (initials MV) was guiding students to compare the two sentences on the blackboard with the aim to formulate a related rule they had previously learned. The preservice teacher was in the final phase of the five year integrated teacher education programme and she was being prepared for becoming a primary school teacher.

The preservice teacher started a lesson with two sentences written on the blackboard to engage students with the topic.

The preservice teacher chose this video because she was able to revise previous lesson and at the same time manage the whole class. This event of the teaching lesson is positioned as a didactical relation, that is to say, an event that occurred between the

teacher and the class students' learning, and as a pedagogical relation, that is to say, an event that occurred between the preservice teacher and the class students.

In the below screenshot (see figure 3) the meaningful event is captured in an image that gives us a quick insight of what happened in the described situation.



Figure 11. Preservice teacher, MV, delivering the lesson (screenshot).

1.2. Teaching strategies

In the selected video clip the strategy that the preservice teacher used were *engaging learners*, *instructional discussion*, and *classroom management*.

The teaching strategies *engaging learners* and *instructional discussion* can be used at different stages. They are examples of the relation that a teacher has to student's relation to content, in other words to student's studying and learning. In this event, preservice teacher actively engages students in formulating knowledge they had previously learned. She guided the discussion with supporting questions and uses two sentences as prompts.

The teaching strategy *classroom management* can be used at different stages of lesson and it describes the interaction between teacher and students that is an essential prerequisite for teaching-studying-learning process to take place. In this event, preservice teacher manages the class by distributing turns and by effectively observing the whole class.

All these strategies can be grouped within beginning a methodological pattern of engaging.

2. Practical knowledge associated with the incident.

After delivering the lesson the preservice teacher had an oral reflection in a form of a peer dialogue. The following extracts of the oral reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

Peer: What makes the incidents meaningful for you?

Preservice teacher: I managed to revise what was learnt previously and at the same time manage the whole class, so that everybody worked along, and then discipline one student without disturbing other students.

Peer: Yes, this is true.

Peer: What have you learnt from this event so far?

Preservice teacher: If you guide students with questions, you can see what they know already and help them to reach the answers themselves, to formulate rules. I would use it in the future during my teaching.

Peer: Yes, this is really something that you may need in every lesson, very good.

During her oral reflection with a peer, preservice teacher formulated what she had learnt from the practical experience and became more conscious of how and why to use the knowledge in the future.

The following extracts of the written reflection illustrate some of the practical knowledge that emerged from this particular meaningful event:

[What have you learnt from the incidents so far? How would you make use of this new knowledge in your future practice] I got the confirmation that when guiding students with questions, they are able to formulate the rules by themselves and I hope that in the future so-called the learning by discovery will help them to remember the knowledge better.

In her written reflection, preservice teacher formulated the principle and rules that she learned from her practical experience and became also more conscious of the prolonged aim of this action.

3. Implications

Overall, analysing the event helped preservice teacher to see the principles and aims behind her actions as a teacher.

Case 7. Emphasizing the Perspective

1. Lesson description.

1.1. Context for the lesson.

This is an episode from a history lesson for 6th grade students (12 year old) co-taught by the preservice teacher (hence ST) with her fellow student. The full lesson lasted about 40 minutes (the videoed half of a double lesson). The topic of the lesson concerned different inventions made during the 17th century. ST was in the first half of her five-year teacher education programme.

ST found the video clip meaningful because she succeeded in emphasizing the specific viewpoint of the topic. Before giving instructions for the forthcoming group work dealing with inventions, ST explicated that the topic would be handled from a narrow viewpoint of *European* history. By this she wanted to emphasize that several inventions may have been made in other parts of the world – even before than in Europe. ST thought that students should keep this in mind during the teaching period and avoid too limited view concerning the whole of the topic.

ST reflected that she couldn't be absolutely sure if the students really remembered this during the next phases, but was satisfied with how they listened to her carefully when stating the point. The clip illustrates teacher's content relation (TC): the reflection is focused upon preservice teacher's unique vision of the subject matter. It also shows how teacher's relation to content may be manifested in the actual teaching situation.

1.2. Strategies.

In the present case the preservice teacher was engaged in the teaching function of “Managing content“. By explicitly stressing the limitations of the perspective adopted, she not only expressed her personal view to the subject matter, but also created a broader framework for the students to comprehend the elaborated topic. As this occurred in the beginning of the period in order to orientate and delineate the following phases, it exemplifies the methodological pattern of “Engaging/Initiating“.

2. Practical knowledge associated to the incident.

Afterwards, the preservice teacher had a reflective conversation with her fellow student and a mentor teacher. The following extracts of the conversation illustrate some of the practical knowledge that emerged from this particular positive meaningful incident:

- *“I thought it was important to say it in the beginning of the learning process, so that they are not going around with the idea ‘It surely was first invented here, nowhere else could you possibly find it’.” (Practical justification, Preservice teacher)*
- *“And so we see that it is great the teacher to have a clear idea about the topic she is teaching. It is not just the individual issues and details... You have to see the issue in a broader context.” (Rule or practical principle, Mentor teacher)*
- *“It was clearly a positive experience for me.” (Appraisal positive, Preservice teacher)*

In the dialogue, the preservice teacher gave a practical reason for her action. After a while, the mentor teacher elaborated a broader teaching principle inherent to the preservice teacher’s explanation. Also, the preservice teacher emphasized how positive the experience was to her.

3. Implications

This meaningful event presents a rare example of reflection on content relation of teaching, where the preservice teacher emphasized to her students the specific viewpoint adopted on a history topic. As such, it is a manifestation of the teacher’s vision on the content of teaching. The case description is of help in discussing the

following questions. What aspects does/should teacher-content relation include? How can/should the content relation be manifested in the everyday classroom practices? How can teacher pay attention to and reflect on her own relation to contents he or she teaches?

Case 8. Activating with Questions

1. Lesson description.

1.1. Context of the lesson.

This is an episode from a mother tongue lesson for 5th grade students (11 years old). The full lesson lasted about 40 minutes. The topic of the lesson concerned different kinds of writing rules such as dividing text into paragraphs and use of citation marks. Preservice teacher (hence ST) was on the final half of her five-year teacher education programme.

ST found the video clip meaningful because she succeeded to activate the students by posing personally relevant questions to them. The class was reading a text about a dog; the text was projected on the whiteboard. ST thought that students were not participating actively, partly because it was early in the morning, and should be engaged more. ST thus decided to ask about students' own pets before entering to the very topic of the lesson itself, "How many of you have a pet?" and "Is someone allergic to pets?"

This case is an example of reflection on didactical relation (TL), where the teacher organizes the relation between students and curricular content with the aim to advance student learning. Here, the preservice teacher considered it important to deviate from the planned activity for a while, and arouse students' attention towards the essential content of the lesson. For this motivational aim, she utilized a personalized questioning technique.

1.2. Strategies.

In the present case the preservice teacher was engaged in the teaching function of "Engaging learners". After noticing students' passivity, ST attempted to evoke students' attention with personalized questions. This is an example of the methodological pattern of „Engaging/Initiating“.

2. Practical knowledge associated to the incident.

Afterwards, the preservice teacher had a reflective conversation with her mentor teacher. The following extracts of the conversation illustrate some of the practical knowledge that emerged from this particular positive meaningful incident:

- „*This lesson took place from eight to nine, and in the beginning I noticed that we can't just proceed with 'What's going on in the text?'...because not everybody was listening.*“ (Practical justification, Preservice teacher)
- “*You could start by first throwing questions yourself, and then let the students do the same: 'Go on, ask something!'*“ (Artefact, Mentor teacher)
- “*The concept of student-centered approaches is now broadly used in the literature, as something to aim to. And I think it is partly realized here.*“ (Theoretical justification, Preservice teacher)

In the first extract, the preservice teacher offered a practical justification for her approach in the situation. Later, the mentor teacher formulated an additional way to engage the students based on the action actually taken by the preservice teacher: students could also present questions. Later on, the preservice teacher related the meaningful situation to theoretical literature.

3. Implications.

This meaningful event provides an example of reflection on teacher's didactical relation, where the preservice teacher evoked her students learning by asking personalized orienting questions. As such, it describes instructional means utilized by the preservice teacher to increase her students' motivation and learning activity. The case description is of help when discussing the following questions, What aspects does/should teacher's didactical relation include? How can/should the didactical relation appear in different phases of teaching?

Case 9. Pacifying and Instructing.

1. Lesson description.

1.1. Context of the lesson.

This is an episode from a mathematics lesson for 1st grade students (7 years old). The full lesson lasted about 40 minutes. The topic of the lesson concerned money

calculations. Preservice teacher (hence ST) was in the second half of her five-year teacher education programme.

ST found the video clip meaningful because she succeeded in managing classroom and giving clear instructions for the collaborative math task. During the instructions she explicated what was coming next, and that now it was time to listen the instructions. ST was satisfied with the situation not being a chaotic one. ST began the instructions by praising students' behavior and performance during the previous collaborative task, and so draw students' attention to her instructions.

The case illustrates teacher's pedagogical relation (TS), the personal interaction between the teacher and her students. In this episode, the aspect of pedagogical relation concerned classroom management and creating the preconditions for learning. When acting in the pedagogical relation, preservice teacher used two techniques as a means to manage students' behavior: explicit anticipation of the course of action for the students, and giving positive feedback of the previous related task.

1.2. Strategies.

In the present case the preservice teacher was engaged in two teaching functions: „Managing classroom“ and „Giving instructions for task“. This interaction occurred in the beginning of the math task in order to pacify the students for the collaborative work, so it illustrates the methodological pattern of „Engaging/Initiating“.

2. *Practical knowledge associated to the incident.*

Afterwards, the preservice teacher had a reflective conversation with her mentor teacher and a peer preservice teacher. The following extracts of the conversation illustrate some of the practical knowledge that emerged from this particular positive meaningful incident:

- *“Yes, I notice paying a lot attention to the words I use, like 'I will share the material in a moment' or 'I will tell who is going to be your pair'.” (Artefact, Preservice teacher)*
- *“They managed to listen the instructions well.” (Appraisal positive, Preservice teacher)*

- “You could clearly see how students’ heads rose towards you. They were clearly listening to you.” (*Practical justification, Peer preservice teacher*)

First, the preservice teacher generates a concrete principle of practice based on the experience, in the form of some specified sentences to use in similar situations. She then moves to give a positive evaluation of the incident. The fellow preservice teacher continues by giving practical reasons to think that the students really listened to the teacher.

3. Implications.

This meaningful event provides an example of reflection on teacher’s pedagogical relation, where the preservice teacher used classroom management techniques in order to create space for instructing the math task. The case description is of help when discussing questions such as, What aspects does/should teacher’s pedagogical relation include? How can/should the pedagogical relation appear in different phases of teaching, and how is it connected to other relations of teaching?

Case 10. Individual support in math.

1. Lesson description.

1.1. Context of the lesson.

This is a math lesson for 3rd graders (9 years old) during which pupils are working individually and silently on the assignments that are in their books. The topic of the lesson and the assignments is division, for example how to divide 18 by two. The preservice teacher is studying to become a primary school teacher and is on the third year of the five-year master programme. The video shows the individual support that the preservice teacher gives to one pupil after she has asked for help with the written assignments (no picture) that are in the book.

1.2. Description

The preservice teacher guides the pupil to use *macaroni* to visualize and solve the calculations. Using similar equipment to guide pupils learning have been encouraged in a course of math didactics in teacher education. The preservice teacher chose this incident, because during it he could experience the meaning of these kind

tools for pupil's learning, guide the pupil in using them and let the pupil be the active problem solver. This incident is positioned as a didactical relation (TL), because it concerns the preservice teacher's actions to guide pupil's learning.

The preservice teacher kneels next to the student and makes sure she has the right amount of macaroni to solve the problem. In the beginning he offers more concrete support (moves the macaroni), then verbal advice and at the end of the incident he only nods while the student is working.

1.3. Teaching Strategies.

The strategy used in the incident was “guiding individual work – activities related to supporting students during individual work”. This kind of strategy is commonly used when teacher knows that a student will need help in a particular task or notices some kind of difficulties during the task. The teacher regulates the guidance so that the role of the student slowly becomes more and more active and at the end can manage by herself. The strategy of guiding individual work can be categorized in the methodological pattern of maintaining. In this case, the preservice teacher makes sure the student is able to perform the difficult tasks and continue her learning through individual work.

2. Practical knowledge associated with the incident.

A few days after the lesson the preservice teacher, his peer and the researcher had a conversation about the incident. The following extracts of the interview illustrate some of the practical knowledge that emerged from the incident:

- *Student: And in this situation I could clearly see that it was really difficult for the pupil. Or at least she froze up when she saw the written tasks.*
- *Student: It is a meaningful situation, or I chose it because I could experience the use of the visualization objects. And how the pupils benefit, the ones who experience problems with for example understanding this division or with written and verbal assignments. So, in this I could clearly see how it became easier with these tools.*

The student emphasized the experience he got in using tools for visualizing a mathematical task with a pupil. He perceives the classroom situation as an example of using a technique that he has no experience of. During their studies of math teaching methodology, preservice teachers are encouraged to use different tools with pupils for visualizing the tasks. However, teaching practice period is when students get to try the techniques during an actual lesson. In this situations and when reflecting on the experience, the knowledge gathered during previous course work becomes practical knowledge.

3. Implications.

It is very important to offer preservice teachers possibilities to perceive clear connections between their learning in teacher education courses, their actions in classroom and pupil's learning. In this example, the preservice teacher perceives the technique as useful for the pupil and experiences success in guiding the student.

Case 11. Motivating through 'teacher playing a role' technique.

1. Lesson description.

1.1. Context of the lesson.

This is a Finnish lesson for 1st and 2nd graders (7-8 years old). The topic is to learn how to read a text aloud expressively, i.e. expressing different emotional states. The preservice teacher is studying to become a primary school teacher and is on the first year of the five-year master program. The video shows how the preservice teacher motivates and activates the pupils using 'teacher playing a role' technique. The role she is playing is called *Madam Paprica*, and she has used it once before with the same group of pupils.

The preservice teacher puts on a cape and holds a rose in her hand to indicate being in a role. She speaks with a French accent and uses French words every now and then. The students get very excited of having a guest in their classroom and at the beginning they make a few jokes about Madame Paprica. The preservice teacher is able to stop the interrupting comments and go to the topic without leaving the role. She describes what it means to read a text in an expressive way. She gives an example of an emotional state that she presents while reading a text. Then she lets pupils to decide

which emotional state she is expressing in the other examples. Teacher in role technique has been presented to the preservice teacher recently in a drama education course at the university. She chose this incident, because she felt that she was able to use the technique without much preparation and still be able to engage the students in an intensive way. This incident is positioned as a didactical relation (TL), because it concerns the preservice teacher's actions to activate pupil's learning.

The preservice teacher is wearing a cape and holding a rose to indicate being in the role. In the beginning she has to calm down the pupils that are too excited about the role and make jokes about it. After that she starts to explain the content of the lesson and makes a few examples for the students.

1.2. Teaching strategies.

The strategy used in the incident was “engaging learners – activities related to motivating student, keeping them interested and involving them to the activity”. This kind of strategy is used very often as the teacher aims to motivate and activate the students according to the goals of the particular situation. Therefore, the strategy of engaging learners can be categorized in the methodological patterns of beginning, maintaining or closure. In this case, the preservice teacher wants to motivate the students to the task of the lesson by introducing the topic with the particular teacher in a role technique.

2. Practical knowledge associated to the incident.

A few days after the lesson the preservice teacher, her peers and the researcher had a conversation about the incident. The following extracts from the interview illustrate some of the practical knowledge that emerged from the incident:

- Student: I wanted to make sure they are listening, and you can see it, well not in this clip we just saw, but the way I told “Thank you, that’s enough.” to this one pupil and ended their fooling around. When they were calling my name incorrectly, I responded playfully “Have you forgotten my name?” and so on, “Let’s focus on the topic and not continue the jokes about Mister Tomato”.

- It went so well although I had not prepared it much, it still worked. It makes it easier to use the technique in the future as well, because although

it's not a perfectly done role, it still seems to work for the children. The intensity in it, how they follow, get excited and go along with it, that's what made it meaningful.

The student emphasized the experience he got in using teacher in role technique for the future, and how she was successful despite the small challenges with the excited pupils in the beginning. She was happy that she did not need a strict plan for the situation, and was able to reflect on pupils' engagement in the situation and the interactive decisions she made during it. Few days before the lesson in a course of drama education, the student was encouraged to use the technique in teaching practice during an actual lesson. In this situations and when reflecting on the experience, the student can connect the knowledge gathered during the course and teaching practice to her future work as a teacher.

3. Implications

In this classroom situation, the preservice teacher perceives that she already has some knowledge or experience that enables her to use the technique without planning. She is also able to handle the over excitement of the pupils while staying in her role. She emphasizes the motivating and activating effect of the technique and sees it as a useful tool in her future work. She reflects on the experience based on past experiences, expresses the remarks she made about student engagement during the situation and wants to experiment with the technique in other contexts.

Case 12. Presenting Finnish artists.

1. Lesson description.

1.1 Context of the lesson

This is an arts lesson for 2nd graders (8 years old) during which the preservice teacher introduces a new task and motivates the pupils by presenting works of three Finnish artists. She shows a lot of pictures of the works of each artist and describes their style, content and characteristics. The preservice teacher is studying to become a primary school teacher and is on the third year of the five-year master program. The video shows the preservice teacher's actions and the way she presents content and motivates the pupils for the next task at the same time.

The preservice teacher has made a power point –show for presenting the artists. She has chosen pictures that clearly represent the styles of the typical artists. She is playing classical music at the background to create a calm atmosphere that helps pupils concentrate. She talks about the artist, for example how Finnish nature was a common topic, how artists used colors and symbolism. The preservice teacher chose this incident, because she thought that she managed to give clear overview of the three Finnish artists for students and motivate them to do the art work after the introduction. This incident is positioned as a didactical relation (TL), because it concerns the preservice teachers actions to present content, motivate pupils and activate their learning.

The preservice teacher stands at the front and explains about the works of the artists. She asks questions and tells about the works of the three artists.

1.2. Strategies.

The strategies used in the incident were “engaging learners – activities related to motivating student, keeping them interested and involving them in the activity” and “explaining/demonstrating content – activities related to explaining the content and/or using demonstrative materials to illustrate the content”. When teachers explain a new content or a task, they usually also try to motivate and activate pupils at the same time. Both of these strategies, engaging learners and demonstrating content, can be categorized in any of the three methodological patterns, beginning, maintaining or closure. In this case, the preservice teacher begins a new task by motivating the students and demonstrating content with the help of Power Point and background music.

2. Practical knowledge associated to the incident

A few days after the lesson the preservice teacher, her peers and the researcher had a conversation about the incident. The following extracts of the interview illustrate some of the practical knowledge that emerged from the incident:

- Student: Well, I got a feeling that it went well and that I should use these kind of stuff in the future as well. Show pictures... and use music also, it makes them concentrate.

- *Student: When I was planning the lesson, it was very hard to think how to explain to pupils that are in this age about artists in a way that makes them interested and that they understand it. It was quite challenging.*
- *Student: Especially with the smaller ones, in these situations where teacher is talking a lot, it is useful to have pictures to support it. Otherwise they are not able to just listen.*

The student was pleased that she was able to explain the content in a way that motivated the pupils. She knew that she was going to be doing all the talking, but she was able to take into account the age of the pupils. Therefore she decided to use the pictures and the music to motivate them and succeeded in it. She also expressed that she will use these tools and this information in the future.

3. Implications.

In this classroom situation, the preservice teacher has a clear view of the content that she wants to explain to the pupils. However, she had to plan how to demonstrate it in a way that would motivate the pupils and keep them interested in the topic. She emphasizes the motivating and activating effect of pictures and music. She monitors the pupils during the situation and finds them engaged. She used her content knowledge and pedagogical knowledge to create the lesson and through practice and reflection constructed action oriented knowledge.

Caso 13. Insecurity when answering questions.

1. Lesson description.

1.1. Context of the lesson.

It is a social studies lesson for 4th graders (10 year old classroom students) at an urban private Catholic school in Salamanca (Spain). The lesson lasted about an hour and the preservice teacher was explaining the topic of prehistory, more specifically about the Neolithic period and cultural expressions (i.e., Menhirs) by prehistoric settlers in Spain. The preservice teacher is in the beginning phase of her teacher education programme and she is being prepared to be a primary school teacher. She is in the first period of the practicum. After a short explanation using a video and some pictures to engage students with the topic she faced a round of clarifying questions by some pupils

that she was not able to respond to properly. She chose this clip of the video because it helped her understand how to deal with a situation when the teachers do not know an answer. She felt insecure due to the lack of experience and the fact that the lesson was being videoed.

This incident of the teaching lesson presents a didactical relation (TL) because this particular event stresses the relation between the teacher's actions towards classroom students' learning. The following screenshot (see graph 1) gives an impression of the situation referred to.



Figure 12. Preservice teacher, MPR, delivering a lesson of history (Screenshot).

In Figure 1 we can see the teacher student in front of the classroom and the students distributed in small groups paying attention to her explanation

1.2. Strategies.

In the selected video clip the strategy that the preservice teacher used was “instructional discussion” – activities related to questioning and using discussion to guide students learning.

This kind of strategy is mainly utilized once the teacher has explained the contents of the lesson with didactical materials and activities. It serves as illustrations to promote better understanding of the concepts that the pupils have to learn (in this case, videos

and meaningful images of the Neolithic age). The strategy of instructional discussion can be grouped within a methodological pattern of maintaining: the teacher, through a round of questions, double checks whether the pupils have learnt what she has explained. However in this event, the teacher had troubles in finding the right answer to Gonzalo's question.

2. Practical knowledge associated to the incident.

After delivering the lesson the preservice teacher had a conversation with the school mentor teacher for 20 minutes. She started by recalling what had happened: "*Gonzalo [classroom student] raised some questions that I did not know how to answer*" (appraisal). She further judged her action by affirming. "I definitely felt insecure and doubtful" (negative appraisal). The mentor teacher instead of commenting on her self-critical evaluation advised the preservice teacher: when that situation occurs, it is better is to respond, I do not know it, or, now it is not the moment. With those answers, she continued, "*...you have enough time to look it up in the teachers' book or the Internet and give him an answer the next day*" (artefacts). The practical knowledge out of these fragments illustrates how the mentor teacher gave the preservice teacher a specific set of instructions to directly use in the classroom.

In the same vein MPR continued to generalize rules of practice from what it occurred. She acknowledged that "*there was a moment when José and Pedro were playing around with a toy in their hands...I have learn that in that instant you have to call their attention with a strong voice command: 'be quiet'* " (artefact).

Besides "*...in the video I used there is a date that did not coincide with the one written in their textbooks. I should have stressed that the date in the video was wrong*" (negative appraisal and rule).

However, the lesson also had positive moments: "*I liked very much that you asked some pupils to read and highlight the text. You did activities about the topic of the lesson using the classroom computer. Again, I found it very stimulating for the students and, as a result, they were paying attention to the lesson*"

Therefore, despite there was an episode to be corrected by the mentor teacher, overall, she reinforced the preservice teacher in the way she kept the students engaged

in the lesson. For him that was definitely helpful to the students and therefore useful as a practical knowledge to be used in future teaching.

The preservice teacher also had a conversation with a fellow preservice teacher about the negative incident. In the next lines there is a transcription of that bit of the conversation:

Peer: The answers to the questions of students were hesitant, but I think this happens even to teachers with experience. We should learn from our mistakes, that is the most important thing.

Preservice teacher. Especially at the beginning, I didn't know how to answer their questions. I was paying attention to the camera and I felt pressured.

Peer: I think that when you don't know how to answer a question of a student, is better to say him/her: "I'm not sure. I am going to search for it and tomorrow I'll explain it to you".

Preservice teacher: At that moment I didn't know how to react. This is due to the lack of experience. It is very important that the teacher shows security, confidence...

The peer basically commented in the line offered by the mentor teacher highlighting that it is important to acknowledge in front of the students that sometimes the teacher does not know it all. One week after the lesson was taught, the preservice teacher reflected upon her lesson in her teacher's blog, a section of her practicum memoir. She believed that she lost the classroom management because of the negative incident described above. On the other hand "*...I must acknowledge that when I faced questions I was not sure of, my attitude was that of being unconfident supposedly because of lack of experience and the fact that I was being recorded. This is a highly negative issue because the classroom teacher should be a referent for children by transmitting confidence, certainty and comfort*". She also highlighted that some teaching mistakes are to be corrected in the future such as checking specific information (i.e., dates) from different sources (i.e., text books, videos, images, etc.).

This reflection makes her think that “...in case a teacher notices a mismatch between different figures or pieces of information he or she must teach and explain clearly to the students what information is correct and write it in the blackboard. Proceeding that way the classroom teacher prevents the children from learning erroneously the content of the syllabus”. Her conclusion was that the objectives for the lessons were chiefly met and her rough teaching impression was satisfactory. “This experience has shown me to know my attitudes in the classroom and my personal ways of dealing with the students. Being aware of that helps any preservice teacher to improve teaching, face common challenges, and correct pitfalls”.

3. Implications.

Overall the described negative incident shows how preservice teachers sometimes feel pressured for not being able to satisfy the students’ learning needs. The fact of not knowing an answer may turn to be typical challenge preservice teachers face in the beginning of their teaching. Therefore this event can be also used by other preservice teachers in Teacher Educational programs to reflect upon what this type of situations may imply.

Case 14. Working with multiple skills: linguistic, artistic, social.

1. Lesson description.

1.1. Context of the lesson.

In this example JAG (Preservice teacher’s initials) is teaching a lesson in Spanish Language (mother tongue) to 8 year-old students (grade 2nd of Primary Education in the Spanish Educational System). The full lesson lasted 45 minutes. JAG was teaching the so-called “daily reading hour” that is done everyday for primary education graders in a public school in an urban district of the city of Salamanca (Spain). The school has a relatively high immigrant population which calls for well differentiated ways of teaching in terms of differences in language and culture.

This preservice teacher is in the beginning phase of teacher education programme. The preservice teacher chose this video because she thought we need to better understand teaching mixed-ability classes. She taught reading, algebra, and science in this lesson.

JAG starts the lesson by calling attention for students' attention and asking them to open the books on page 146. They had to read the dialogue about "green beans". Once they located the text and before reading it through, the teacher reminded the students that May 2014 was approaching its end. She encouraged the students to count the days left.. She got the correct answer (11 days) and then asked what the season of the year was. The final questions was whether 2014 was an odd or an even number. After that she let the students start reading.

This incident of the teaching lesson is positioned as a didactical relation (TL), that is to say, an event that occurred between the teacher and the class students' learning. In the following screenshot (see figure 2) JAG is pointing the date of that day's lesson. Classroom students are paying attention to her while looking at their reading books.



Figure 13. JAG, the preservice teacher, in the starting of her lesson.

1.2. Strategies.

In the selected video clip the strategy that the preservice teacher used was "engaging learners". This kind of strategy is typically used at the beginning of a teaching or explaining episode in order to catch the attention of the class students and set the ground for the instructional part, that is to say, the main content that the pupils have to learn (in this case, the reading about the "green beans"). However, in this

particular case she engages students by going for a multidisciplinary kind of episode to facilitate the students the interconnections between the different content subjects in their class. The strategy can be seen as a part of a methodological pattern of engaging.

2. Practical knowledge associated to the incident.

Right after finishing her class, JAG had a conversation with another preservice teacher who was present in her lesson. They reflected upon all the concepts they had worked (i.e., respect, friendship, the care of animals and positive attitude) in addition, to the main topic of the lesson: Reading comprehension and also spelling and verb tenses. But most important was the connection to other areas of knowledge such as algebra (i.e., dates and odd/even numbers) or science when she spoke of the weather seasons (spring, summer, autumn and winter) and the elements. Also, in the domain of arts when you told them to freely draw a drawing about the reading: you fostered their imagination and creativity.

Two days afterwards, the mentor teacher watched the video recording and have and discussed the positive incident with JAG in an about 12 minute conversation. The mentor teachers did first a recapitulation on the three sections of her full lesson of reading and writing. The first one was aimed at listening, speaking, aural and reading comprehension. The second section was about writing unknown words from the dialogue and reviewing grammar and irregular verbs. The third one was about the literary part (i.e., telling a tale). Secondly she complimented JAG about her skill to mix different contents in a lesson: *“you have worked both the left and right part of the brain by demanding them to solve tasks related to reading, writing, math or arts simultaneously. Mixing competences in the lesson allows the students to be always attentive to the contents and the teachers’ moves. You went from language to math, when you review the days of the calendar to finish the month and basic concepts such as left and right. Besides you went into other concepts such as health and nutrition, respect to animals, the planet, the world and the respect to the Earth”*

So the mentor basically recalled her lesson and pointed out the best aspects for her. From those recalls she went into some appraisals that went from general aspects to the more specific ones:

“I need to congratulate you for your performance. Your teaching was wonderful, complete and creative. You mastered the situation from the very beginning and the kids were totally engaged. You have innovated in many aspects: basic competences, emotional intelligence, math, Reading, etc.” (Positive appraisal)

“Also the underlying message of the lesson was respect to each other by allowing the students to express their ideas freely. This is very important because there are many kids from different nationalities. That was right” (positive appraisal)

“You know how to listen your pupils and that is a very important thing because the also listen to you too, they have to listen other partners, they have to listen themselves in other not to feel fear speaking” (positive appraisal)

“The morale of the tale, you have worked with them the Reading comprehension with a tale, you have do it very well” (positive appraisal)

Finally JAG wrote in her reflection blog that the plan goals for the lesson were aimed at highlighting an active methodology by which the teachers foster the activation of students’ prior knowledge that need to be reinforced in different subjects such as algebra, science, arts, and ethics. She also made an account on the aspects that were reinforced during the lesson in language (i.e. reading comprehension), algebra (odd/even numbers) and ethics (i.e. values of respect, responsibility, solidarity and friendship).

For her the lesson was relevant since *“...any teaching unit should address the combination of different domains of knowledge in order the classroom students learn different competences and, most importantly, use them in different situations”*. For her the concept of interdisciplinary is central: *“Following Casanova Vega et al. (2010) interdisciplinary consists in explaining contents from different subjects but on integrating them within the already students’ learnt knowledge”*.

3. Implications.

This meaningful event shows how learners can be fully immersed in a class when they are motivated to participate through recalling prior knowledge from different subjects. This episode may help other preservice teachers to try a multidisciplinary

approach in primary education and check whether it can generate positive results as in the example described.

Case 15. Motivating activities to work with emotions.

1. Lesson description.

1.1. Context for the lesson.

This is a lesson of Spanish language to 5th grade students (11 year old) taught by ECM (Preservice teacher's initials, female). The full lesson lasted 40 minutes at a rural public school in the province of Salamanca (Spain). The specific topic of the Spanish Language lesson was writing, i.e., composing an essay about emotions.

ECM started the lesson by engaging the students with an activity in which she showed them a flashcard with a black dot in the middle of a white framed background. They had to write an essay of five to eight lines in their notebooks about what they see in the image, what it looks like and what their emotions were regarding the image. After ten minutes of individual work some children read aloud their writing. All the children had described the dot but no one the background. This fact led ECM to describe it in depth, pleasing the students with a very suggestive story.

The preservice teacher was in the beginning phase of her teacher education programme and she was being prepared to be a primary school teacher. She was in the first period of the practicum (that lasted seven weeks). She chose this clip of the video as a way of starting the lesson because she thinks that freely writing about emotions would be beneficial to students, specially the introvert ones because they could express themselves and let their thoughts and ideas emerge without any restrictions or corrections on behalf of the teacher. This incident of the teaching lesson is positioned as a didactical relation (TL), that is to say, an event that occurred between the teacher and the class students' learning. In the following screenshot (see figure 3) ECM is devised holding the flashcard she wanted the students to pay attention to.



Figure 14. Preservice teacher, ECM, delivering the lesson (Screenshot).

1.2. Teaching strategies.

In the selected video clip the strategy that the preservice teacher used was “engaging learners”. This type of strategy is characteristically used at the beginning of a teaching episode in order to grasp the attention of the class students and set the ground for the instructional part, or to complete an activity that has been planned. The strategy can be grouped within a methodological pattern of engaging.

2. Practical knowledge associated to the incident.

After delivering the lesson the preservice teacher had a conversation with the school mentor teacher about the incident for about 20 minutes. The following extracts of the conversation illustrate some of the practical knowledge that emerged from this particularly positive critical incident.

- *Mentor teacher: “you gave them the instruction: ‘five to eight lines and they know what they have to write and how long their essays should be” (appraisal). Besides you gave them enough time to complete the task, ten minutes. Very good”*

- *Mentor teacher: “If you want the activity to be as impartial as possible, and more imaginative, just let the students express themselves freely, asking them to write how they feel” (artefact)*

“Once a classroom student finishes the task and considering whether he/she has respected the established norms, you could take advantage of it and encourage

them to commence some individual work; this way, you will get the most out of the time without letting her/him to linger” (artefact)

In this interaction the mentor teacher goes from positively appraising her role in the planned activity to propose new alternatives to deal with the specific reactions it motivated (artefacts). First, (1) to omit the initial stimulus and give the students no other clue than just their imagination to trigger their free writing, and second (2) to advise ECM in how to deal with those students who finish the assignment first and have free time while the others are still completing it.

After the mentoring conversation the preservice teacher had to write in her memoir a brief written reflection on the meaningful event. In a one-page report ECM highlighted two aspects: the good behavior and the clear instructions she gave. With regard to the first this positive incident allowed her to get the discipline she pursued from the beginning of the lesson and everyone was working at the time. Besides, she acknowledged she was able to react well to some students misbehaviors through some verbal comments such as "now is not the time" or "we listen to others as well as other mates have respected us and listen to us". Thus *“I think they feel respected by all. I think that if I would have said nothing the kids had been tempted to do other things, wake up without permission, teasing or laughing”*. Keeping a loud tone of voice was also part of the success even though she thinks that having a diagnosed hyperactive girl kid made things complicated. *“There are many levels at which the organization and not disturb other partners are essential elements for the smooth running of the class. In this episode I have learned that a warning in time saves many upcoming problems, and therefore guarantees the functioning of the class.”*

With regard the clear instructions she thinks she gave complete and concise guide lines for the activity. However *“...I believe there should be added some other slogans such as: ‘Do remember legible handwriting and spare the margins’ because it is something that should always be repeated in a class”*.

This mistake was also visible when she was asked -by other student- how to formally write a list of grocery items for another activity. *“My lack of concentration and inexperience left the student without a correct answer and therefore a bad*

handwriting". This event (i.e., giving instructions) got ECM's attention because she considered it essential to give a good explanation to the children so they can focus on task and get the job done easily. For this reason she concluded that *"in the future I hope to gain more aplomb in relating to students' prior knowledge in my instruction."*

3. Implications.

This meaningful event sets an extraordinary example of a teaching episode in which the preservice teacher engaged learners in an activity of writing by showing them an unusual stimulus to trigger their thoughts. Besides the instructions given to them were sufficiently clear as to get them focused on completing the task.

The practical knowledge emerged from both the mentoring conversation and the reflective report can be of help to other preservice teachers.

8. Conclusion

Teaching is a complex activity that requires deep understanding of both learning and instruction. It entails well-reasoned decisions on how to best support student learning. To meet this challenge teachers develop their own practical knowledge including both theoretical and practical understanding and knowledge that guides their decisions and actions in daily teaching situations. As a part of this knowledge, teachers have different teaching strategies that can easily be used in everyday work to maximize student learning.

In this handbook, some teaching strategies were introduced that can be used to enhance pedagogical, didactical and content relation, all of which are central to teaching. Moreover, the strategies can be used during different stages of interactive teaching – beginning, maintaining, and closure. These strategies represent the aspects that teachers often focus on when analysing their teaching. Therefore, this set of teaching strategies can be used to face common challenges of teaching. On the one hand, teachers can use these strategies when planning their teaching to better support student learning, and on the other, as a part of analysing teaching to describe knowledge, skills, and usual behaviours in class and identify common professional pitfalls. In addition, these strategies can be used to better prepare preservice teachers and novice teachers for the realities of the classroom by providing central aspects to focus on when supporting student learning.

This overview of teaching strategies and exempla was created from the results taken from the ACTTEA project conducted in four European countries (Estonia, Finland, The Netherlands and Spain) during the period 2012-2015. The overview represents strategies and patterns that preservice teachers used in kindergarten, primary and secondary schools in different subjects. The presented examples of the teaching strategies can be used in the teacher education programs taught in the universities, colleges, and higher education institutes since they can guide explication, structuring and development of preservice teachers' pedagogical knowledge and skills base. Moreover, the examples can be used by other preservice teachers for the (secondary) analysis and learning purposes and may become eventually part of their own repertoire.

Besides, in-service teachers' at schools can also make use of them in order to: (a) guide future preservice teachers in their teaching in the practicum (i.e., by illustrating some useful strategies inferred by other preservice teachers), (b) help novice teachers with its initial teaching learning and c) use the theoretical frameworks and presented examples as a guide for the explication, systematization and development of their own practical knowledge.

Finally, we would also like to warn about some limitations of the use of the examples presented in this document. The examples taken from our study are context specific and might not be generalized to other contexts.

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