Videocases in teacher communication competencies:
Interaction between professional practice and conceptual knowledge

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1. Introduction

In Dutch institutes for teacher education is an ongoing debate on the place of conceptual knowledge in an educational system that has historically deep roots in the professional practice. The shift towards a more competence-based way of teacher education has further emphasized this matter. In our own experience as a teacher educator we also find that the use of conceptual knowledge is not systematically integrated in all domains of teacher education. The institute for (primary school) teacher education Edith Stein recognizes this problem and is in immediate need of a course about Communication with parents in a competence based curriculum. In this context we designed an intervention including videocases as a central element, for prospective teachers.

Theoretically we address the question how to make conceptual knowledge (about Communication, Psychology int.al.) applicable and useful for prospective teachers in their practice (communicative situations with parents). Applying flexibly a theoretical framework to interpret and analyse a situation in the professional practice, and improvement of communication skills are main learning goals.

This paper presents a formative evaluation of the intervention. In the design research project one complete cycle of design, evaluation and revision has just been completed. In this stage the evaluation focused on the practicality of the intervention for prospective teachers and tutors, with the objective of optimizing the intervention. A first exploration of learning results is included as well. First the theoretical framework of our study, the curriculum design and the intervention itself are described. Method and results of the formative evaluation are described next in two parts. Part one is about prospective teachers’ experiences and evaluation, part two is about the learning results. The goal of this paper is to present the formative evaluation and to discuss the design’s potential.

2. Theoretical Framework

Cognitive Flexibility and Case-Based Learning

The transfer of conceptual knowledge to professional learning is a tough problem and not yet solved in a satisfactory way (Bransford, Derry, Berliner, & Hammerness, 2005). The Cognitive Flexibility Theory (CFT) addresses problems of advanced learning and gives a direction to reach difficult goals such as mastery of complexity and transfer of concepts to new situations. According to CFT, application of concepts and skills in new situations works out better when these concepts and skills are learned from different perspectives and in several situations (Spiro, Feltovich, Jacobson, & Coulson, 1991; Derry & STEP Team, 2003; Derry, Hmelo-Silver, Nagarajan, Chernobilskey, & Beitzel, 2006). This is especially the case for advanced knowledge acquisition in ‘ill-structured domains’ i.e. domains that are characterized by so-called ‘concept- and case-complexity’ and ‘across-case-irregularity’. It will not do to just apply certain concepts and carry out certain procedures, as in some domains or for introductory learning is sufficient to solve a (class of) problem(s). Understanding a case in an ill-structured domain requires a comprehension of the interaction among several complex concepts, a feeling for the different shades of meaning of a concept, and a great flexibility in applying concepts of several knowledge domains.

By using videocases key concepts are not learned in an abstract way but they are learned ‘embedded’ in a concrete realistic situation (Darling-Hammond & Hammerness, 2002). A process of abstraction from the individual cases takes place as the cases get indexed and stored in the memory as an example of an underlying principle (Kolodner & Guzdial, 2000). This process of indexing or labeling is necessary to free oneself of a specific context and allows for the transfer of learned knowledge to new situations. In another encounter, whether authentic or on video, comparisons are made with the indexed case. Considering similarities and differences brings on a greater understanding and refining of the concepts. Kolodner stresses the importance of a good indexing scheme as a learner is building on his case library because it ‘allows the reasoner to see a past situation as relevant to the current one’
Videocases in teacher communication competencies

(Kolodner & Guzdial, 2000, p.217); analysis of the new situation may of course result in new conclusions and actions.

Case methods allow one to go back and forth from general concepts to specific details of a realistic situation. Shulman speaks of ‘a strategy for transforming more propositional forms of knowledge into narratives that motivate and educate’ and points out the potential danger of sticking to the concrete example (Shulman, 1996, p.17). Research on case-based learning shows that videocases should form a part of a more encompassing didactic method to be effective, the so-called case-method (Berg, Wallace, & Pedretti, 2008). Obviously an adequate case method that supports the indexing process is needed to take full advantage of the learning possibilities offered by cases.

Working with video as a medium gives the opportunity to show an authentic, complex, and vivid reality. Video is used to enhance the situations with non-verbal language and to give them a real-life and recognizable quality (Putnam & Borko, 2000). For prospective teachers it’s motivating to learn to understand a lifelike situation including all its specific details. In particular for the domain of communication we consider video an appropriate and necessary medium to get across all kinds of subtle (non-verbal) information. Furthermore, there’s a practical reason for using videocases in teacher education. Although teachers to be spend quite some time as a trainee in the schools they haven’t got the opportunity to experience all kinds of situations. Most schools won’t allow them to have difficult conversations with parents and for obvious reasons it’s impossible to practice dealing with aggressive parents. Videocases offer a great alternative in these circumstances.

Videocases can be used for different learning purposes. Wallace mentions a primary, secondary and tertiary use of cases (Wallace, 2002), referring among other things to the role of the participant that’s ranging from constructing his own videocase (primary use) through interpreting a finished case (secondary use) to exploring a case (tertiary use). According to Merseth, three types of cases are distinguished for teaching. A case can be 1. an example to be followed, 2. a subject to be analyzed and discussed and reflected upon and 3. a means to reflect on one’s own practice (Merseth, 1996). Despite of these classifications sometimes one or more characteristics can be found in the same case.

In short, from a cognitive point of view the use of cases is a promising way to connect practice and conceptual knowledge in the domain of communication. CFT hypotheses that the use of cases supports the instructional goal of cognitive flexibility, i.e. acquiring transferable knowledge and being able to interpret new situations by combining, adapting and applying knowledge from several domains. Videocases have the additional advantage of showing a realistic context, providing a lot of information, including non-verbal language that’s relevant for communication, and they offer a good alternative for situations that can’t be practiced in the authentic context.
3. Instructional and curriculum design

Based on the forementioned ideas a curriculum and instructional design is developed for the domain ‘Communication (with parents)’. We describe the basic ideas and elements of the instructional design followed by the curriculum design and, at the end, our hypotheses.

3.1 Instructional design

Pedagogical model
In the instructional design’s learning environment videocases play an important role. To initiate learning processes resulting in the connection of practice and conceptual knowledge, the assignment for prospective teachers is based on a pedagogical model. This model has been previously tested for its practicality and academic value (Bakx, Berg, Kemmeren, & Thijs, 2005). The model consists of four phases. In table 3.1 is presented how learning processes and activities are connected.

<table>
<thead>
<tr>
<th>Learning process</th>
<th>Learning activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>Building mental image: refreshing prior knowledge and experience; meeting different opinions</td>
</tr>
<tr>
<td></td>
<td>Watching videocase; Discussing videocase.</td>
</tr>
<tr>
<td>2. Study of conceptual framework</td>
<td>Analyzing: (individually)</td>
</tr>
<tr>
<td></td>
<td>Analyzing videocase using (a part of) the conceptual framework.</td>
</tr>
<tr>
<td>3. Exchange</td>
<td>Integrating: integrating multiple perspectives and personal interpretations</td>
</tr>
<tr>
<td></td>
<td>Exchanging results, together they rewrite the case, based on the case-analysis.</td>
</tr>
<tr>
<td>4. Application</td>
<td>Applying: applying what’s learned</td>
</tr>
<tr>
<td></td>
<td>Videotape their own (reconstructed) case, and including an explanation using the conceptual framework.</td>
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</tbody>
</table>

Table 3.1: Learning processes and learning activities in the design

Learning environment
The learning environment in the instructional design is hybrid and consists of both digital tools and face-to-face contact. In accordance with CFT, instructional systems should facilitate prospective teachers to practice analyzing and interpreting cases that require the flexible use of multiple domain concepts. Typically this involves carefully designed hypermedia networks that provide opportunities for a non-linear learning strategy, metaphorically described as ‘criss-crossing’ domains of practice and conceptual domains, resulting in cognitive flexibility (Derry et al., 2006; Spiro et al., 1991).

Our digital learning environment provides for several cognitive tools like videocases, cooperative assignments, assessment criteria and a concept map. We pay some special attention to two central elements of the learning environment: 1. videocases and 2. the concept map.

Videocases
Two types of videocases are made use of to initiate desirable learning processes. Firstly, videocases are developed to be discussed and analyzed (Merseth, 1996). Initially the cases, showing recognizable,
realistic situations of parents and teachers in a primary school-context, are used for building up a mental image. This type of video is dilemma-focused and is intended to work as a trigger. Triggers picture an awkward situation in a realistic, but not necessarily exemplary way. To emphasize the ambiguity of the situation sometimes two different ‘endings’ of the plot are presented. A trigger is meant to set tongues wagging, to arouse thinking processes and to encourage the expression of prior knowledge, opinions and interpretations. After being discussed the videocases are also analyzed with the means of a conceptual framework. Collaborative learning provides for further interpretation of the situation, grounded on the case analysis. During a process of re-writing the videocase, multiple perspectives and interpretations are integrated.

Secondly, another type of videocase is used in the instructional design: videocases made by prospective teachers. After building up a mental image, analyzing and integrating, they apply what’s learned by actually play-acting and videotaping themselves.

To link conceptual analytic thinking (as in the case-analysis) to practice (as in the videotaping) the videotaping involves an explanation of the choices made. In this way prospective teachers naturally present their professional skills on video and they reflect on this practice with a more theoretical explanation.

A underlying motive for the decision to make prospective teachers constructing their own videocases is that showing communicative skills instead of hypothesizing about them illustrates immediately to what extend teachers to be are able to act professionally.

An element of the case method is cooperative learning. This kind of learning is distinguished from individual and competitive learning and is characterized by interaction and interdependency of the learners who as a group work towards a common goal (Johnson en Johnson, 2002). Cooperative learning is most effective in case of complex problems that can’t be solved with a routine method, and therefore seems an appropriate choice for the domain of Communication. Communicative situations are examples of complex problems that can be faced in different ways, depending on the (personal) evaluation of various factors. Cooperative learning also supports sharing opinions, experiences and insights.

![Figure 3.1](image)

**Figure 3.1 Informal and formal communication of teachers and parents**

**Concept map**

Another element of the learning environment is a concept map. We consider a concept map as a knowledge structure, including concepts of one or more domains and the specified relations between the concepts (Novak & Canas, 2006). The concept map’s main goal is to offer an overview of the domains’ key concepts and their relatedness. Because it’s digital the information is easily accessible, and can simply be extended with references and links and new relevant domains. This last feature is important because, as Derry points out, interpreting real-life cases demands a flexible use of multiple domain concepts (Derry, 2003). With regard to the learning process, we expect prospective teachers to benefit from an accurate presentation of central concepts and their relations; as a cognitive tool the concept map may function as an advanced organizer and moderate the memory process of storing systematically organized knowledge. To be clear on this point, we don’t expect prospective teachers, novices as well as advanced students, to adopt an expert’s knowledge structure or a scientific knowledge structure straight away. We regard learning as a constructive and dynamic process, strongly influenced by prior knowledge, experience, motivation, and personal concerns (Kessels & Korthagen, 1996; Korthagen & Kessels, 1999). We believe however that the process of building a personal knowledge structure may gain speed and efficiency when it’s scaffolded by a cognitive tool.
At this stage of development the first prototype presents key concepts (and their relations) of Communication and Psychology and references to relevant sources. The concept map is still evolving and needs improvement on many aspects. Further development of the concept map and the digital learning environment will take place in order to accomplish a real hypermedia environment (Blijleven, 2005).

3.2 Curriculum design
The videocases in the learning environment are part of a spiral curriculum (cf. Bruner). Acquiring conceptual knowledge and improving skills take time: student teachers need to re-use a set of key concepts several times in different contexts before they become meaningful and useful in their professional practice. Figure 3.2 shows the structure of our curriculum design.

![Figure 3.2 Spiral curriculum design: increasing complexity](image)

Prospective teachers get assignments on four consecutive levels. The increasing complexity of the cases and the accompanying assignments demand a simultaneously increasing level of knowledge and skills. The cases cover a wide range of situations from the professional practice of prospective teachers, from small-talk in the schoolyard to well-prepared conversations about a child’s cognitive development or about child abuse. Central questions vary from ‘What does it mean to be a representative of a school-organisation’ to ‘How do I speak to parents I suspect of child abuse?’ The increasing complexity is found in two aspects:
1. to understand a more complex case you need to combine knowledge of several different domains (e.g. communication, psychology, law);
2. to act professionally in a more complex situation requires more refined communication skills.
To work in this spiral way it’s conditional for the concept map to be accessible all the time: prospective teachers use and re-use the knowledge base – deepening and extending their own knowledge structure.

Assertions
In the Netherlands prospective teachers follow a four years programme, including weekly in-service training, to qualify for a bachelor’s degree in Education allowing them to teach as a primary school teacher. Our curriculum design consists of four courses or interventions (see figure 2.3) and is implemented in one institute for teacher education.
From a CFT point of view it’s hypothesized that analyzing and interpreting (video)cases leads to acquiring transferable knowledge. We think that two elements may contribute to this goal.
Constructing videocases helps for improving communication skills and establishing a useful link between conceptual knowledge and one’s own professional practice. Using a concept map is helpful for acquiring an analytical framework with multiple domain concepts. With regard to the curriculum design as a whole we expect that analyzing several increasingly complex videocases with the help of a concept map on the one hand, and constructing videocases on the other hand, will contribute to the following learning goals:
1. acquiring an analytical framework;
2. combining, adapting and applying concepts;
3. engaging in a professional discourse;
4. improving communication skills.
With regard to a separate element of the instructional design, we suppose that the dilemma-focused videocases function as a trigger (initiate discussion and exploration). In this paper we present a formative evaluation of the second year’s intervention.

4. Intervention

In this section we describe one intervention (out of four). Table 4.1 shows the consecutive elements of the course from a prospective teacher’s point of view.

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<thead>
<tr>
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<tbody>
<tr>
<td>Watching and discussing videocases;</td>
<td>Studying conceptual framework and analyzing videocase;</td>
<td>Group of teachers to be and a tutor meet face-to-face, reviewing progress with relation to case analysis and presentation.</td>
<td>Presenting results to peers;</td>
</tr>
<tr>
<td>Clarification of theory and assignment by tutor.</td>
<td>Preparing presentation, including own videocase and explanation.</td>
<td>Evaluation by tutor and peers.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1: Consecutive elements of the course

Guidance and support is organized in the following way:
- In a class session prospective teachers get introduced to three cases and some relevant central questions and concepts. They choose a case that contributes to their personal learning goals and organize their own groups for working cooperatively.
- After a few weeks prospective teachers and tutor meet to discuss and review the case analysis and presentation so far.

The design provides for a learning environment with several (digital) learning aids:
- Videocases
- Concept map
- Assignments
- Assessment criteria

The assignment requires cooperative learning:
Prospective teachers work on the assignment cooperatively: they divide tasks among them, integrate results, rewrite the case and construct their own videocase, based on shared ideas and interpretations.

The assessment:
The course results in a final presentation for peers. This includes a self-made videocase showing the prospective teachers’ communication skills, added with an explanation of the central issues and the choices made, and a reflection on their personal development as a teacher in communication. The presentation’s quality is evaluated by tutor and peers.
5. Method and results, part 1: practicality

5.1 Method
In this study we make use of a design-based approach to research. This type of research is characterized as interventionist, iterative, process oriented, utility oriented and theory oriented (Akker, Gravemijer, McKenney, & Nieveen, 2006). Starting from a realistic problem an intervention is designed that is grounded on theoretical propositions and improved in a cyclic way, contributing to a modification of the theory and a solution to the initial problem. In our design research project one complete cycle of design, evaluation and revision has just been completed. Paying careful attention to the practicality of a design is characteristic for design research, as many educational interventions fail for disregarding the specific needs of ‘users’ and the specific features and constraints of the context in which the intervention is implemented. In this stage the formative evaluation puts emphasis on the course’s practicality for prospective teachers and tutors. An explorative study of the first learning results is conducted as well. As the research questions and methods vary for both studies, they are described separately.

Research question and procedure
To study the intervention’s practicality we asked ‘How did prospective teachers evaluate the course and which improvements do they suggest?’

We used a qualitative method, providing us with rich data to derive useful guidance for improvements of the design (Patton, 2002). Our main goal is to gain detailed and precise insight in the way prospective students handled the intervention, in order to derive improvements for the intervention’s optimization. Therefore we conducted half-structured interviews with prospective teachers. Six weeks after finishing the course, these interviews with individual prospective teachers took place, taking 30 to 45 minutes. The interview included questions about their actual experiences with and evaluation of the course. It included the following subjects:
1. General impression;
2. Course structure;
3. Course procedure;
4. Learning aids;
5. (peer) Assessment;
6. Perceived learning results.
All interviews have been audiotaped.

Participants
The course is implemented in the teacher education programme in the 2006-2007 academic year; 200 prospective teachers and 2 tutors participated during two periods (november-december 2006, march-april 2007). During the assessment all prospective teachers were informed about this research project being done and the april group were invited to be interviewed about their experiences by email. Ten prospective teachers responded to this call and we randomly selected six of them to be interviewed. Five prospective teachers participate in the full-time programme (age varying from 19 to 23 years) and one participates in the part-time programme (age 35, career change).

Wendy: full-time programme, age 20, female
Leanne: full-time programme, age 21, female
Nicole: full-time programme, age 19, female
Karla: full-time programme, age 20, female
Nick: full-time programme, age 23, male
Sas: part-time programme, age 35, female

1 Tutors’ experiences have been studied as well. The results correspond with prospective teachers’ results and therefore underline the significance of several improvements of the intervention (Kemmeren, van den Berg, Pieterse, 2008)
Data-analysis
The data were systematically reduced. Full transcriptions of the recorded interviews have been made at first, subsequently the data were grouped together and summarized. The summaries of the prospective teachers’ interviews are illustrated with some interview quotations clarifying the results. Finally, we reflect on the consequences of the results for the intervention’s improvement. In this paper we present the main results of the interviews as follows:
- Summary, including interview quotations
- Interpretation: consequences for the intervention’s improvement.

5.2 Results students

1. General impression
Prospective teachers’ opinions about the design are in general positive. They appreciate several aspects:
1. Course structure: Provides for enough guidance and leaves enough space;
2. Course procedure: Constructing a videocase is functional and fun;
3. Learning aids: Accessible and clear. Concept map must be improved;
4. (peer) assessment: Presentations are interesting. Criteria and procedure must be improved;
5. Learning results: Knowledge, knowing how to act, awareness and sensitivity

Opinions about the adequacy of the assignment’s level are diverging. Nick and Karla doubt the profundity. Nick’s doubt relates to the educational programme as a whole: May be the overall level could be raised? Karla felt that there was no need to study because everything was explained in the class section. Wendy, Leanne, Nicole and Sas consider the level to be just right. Wendy: ‘Interesting to work on, accessible, but challenging as well. You needed to study and to do something.’
Prospective teachers find the subject matter relevant and say they are motivated to learn more about professional communication.

Interpretation
With regard to the design we conclude that the basic shape is appreciated, but we need to know more about the assignment’s level. Therefore we will study the learning results in more detail.

2. Course structure: class session, consultation, assessment
In the interview was asked how prospective teachers evaluate the class session, consultation and presentation.
Prospective teachers express enthousiasm about the course structure: clear, concise, well-structured, and nonetheless enough freedom. The fixed schedule of due dates works well and prevents postponing the assessment date. The class session was a good introduction, the consultation worked perfectly well to monitor progress in case-analysis and case-construction. Just-in-time availability of tutors (by email or face-to-face) is appreciated very much. Suggested is to offer an extra, optional consultation.

Interpretation
The course appeared clearly to the prospective teachers. They experienced a good balance between guidance and independence. The fixed schedule for consultation and assessment effect their study progress in a positive way: all six teachers to be finished the assignment in time. For half of them this is unusual. They have great difficulty planning their study activities independently. The others have no problems planning; they mainly appreciate the clarity and efficient use of class time. Prospective teachers mentioned the course as a good practice of curriculum planning in the educational department’s evaluation research.
The suggestion of an extra optional consultation will be discussed with the tutors and depends among other things on working conditions and restraints.

3. Course procedure: case-analysis, case-construction
In the interview is asked how prospective teachers worked on the case-analysis and the case-construction.
Making a videocase of their own was a motivating and fun task for all prospective teachers. The chosen procedure for case-analysis and case-construction however differs considerably: four teachers to be worked according to the assignment, one (Nicole) changed the sequence and first made a video, after which case-analysis took place, and one (Karla) never did any case-analysis. With hindsight Nicole regrets her own method and suggests:

‘It’s better to do a case-analysis at first, because you learn things you need to know for your own video; our video wasn’t good enough. You should make the right sequence compulsory for us: Let us be obliged to show our case-analysis at first before we are allowed to make our videocase’.

Karla describes her own method as quick, dirty and unsatisfying:

‘We just threw in some theoretical concepts we picked up during the class session. We took notes and that was sufficient; there was always one of us who knew what it meant. I didn’t study at all, but I should have because I believe theory should be part of a course’.

Three other prospective teachers (Wendy, Leanne, Sas) mention to have benefitted from the procedure:

‘We divided several tasks. But because there were so many discussion moments included, we exchanged our views and conceptual knowledge, so we all got to know everything’. And Nick put little energy in case-analysis and cooperative learning. All prospective teachers liked to prepare a presentation including the selfmade videocase, even the ones that initially felt shy and ashamed. Although video-editing is part of the programme, not all prospective teachers were able to do that. They made use of peers and other people.

**Interpretation**

There’s a wide range in the extent to which prospective teachers apply conceptual knowledge to professional practice. They also differ in depth and quality of the case-analysis. Their way of handling the assignment is characterized and motivated as follows:

<table>
<thead>
<tr>
<th>characteristic</th>
<th>motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. maximalist</td>
<td>Works seriously and in depth, following assignment.</td>
</tr>
<tr>
<td>2. minimalist</td>
<td>Works superficially and convenient, following assignment, emphasis on case construction.</td>
</tr>
<tr>
<td>3. videomaker</td>
<td>Starts videotaping immediately. Exchange of experiences takes place, case-analysis afterwards.</td>
</tr>
</tbody>
</table>

*Table 5.1 Characteristics and motivation for teacher students’ handling the assignment*

To encourage desired learning processes for minimalists and videomakers several measures can be taken:

- As suggested by Nicole, demanding the right sequence of case-analysis before case-construction;
- Assessment criteria can be ‘sharpened’ and heightened.

**4. Learning aids: assignment, assessment criteria, concept map**

Prospective students were asked which learning aids they used and how they evaluated them. The assignments for all three cases were clear and easy to understand. The assessment criteria were used by all but one. Because the concept map wasn’t yet completed, three prospective teachers studying the ‘aggressive parent’-case couldn’t use it properly. They studied literature the tutor showed them.
Of the other three prospective teachers, two used the concept map extensively. Part-timer Sas used the concept map and studied the indicated references. Sas describes how she used the concept map for last year’s assignment and this year again:

‘It was nicely connected to last year’s assignment. Partly we used the same concepts, but it was extended with new concepts this year. We had to apply these concepts to more complicated situations. It gives a good overview’.

Nick studied the concept map as a primary source: he made use of the provided information because it was accessible easily and sufficiently informative, but he didn’t study the indicated references. Karla only studied her notes.

**Interpretation**

One of the interventions’s elements is the concept map. As the concept map wasn’t yet completed three prospective teachers couldn’t use it. To improve the intervention the concept map must of course be completed. One prospective teachers used the concept map as intended, one used it as a primary source, one didn’t use it at all. It’s practicality could be enhanced by adding digital sources and links instead of references to books. To study the concept map’s possible effect, it’s important that prospective teachers are introduced to the concept map’s function more extensively.

### 5. (peer) Assessment

Prospective teachers were asked about their experiences with the presentation and assessment procedure.

Four prospective teachers like their presentation because they feel proud about their videocase. Two prospective teachers feel shy about showing it and stress the importance of taking the assessment in a familiar peer group. Presenting results to peers is perceived as much more rewarding than handing in a written assignment. Leanne advocates passionately for a lengthening of the presentation-time to 20 minutes to have a fair chance to present all relevant information. All prospective teachers are very interested in their peers’ results. Video makes the presentations more dynamic and informative than usual, they say.

The assessment procedure however results in a certain degree of inequality. There’s a sequence-effect: groups that present later on benefit from the preceding presentations, because they can adapt their ‘story’. No one offers an alternative for this problem. They can live with it as long as the tutor is an ‘objective’ assessor and doesn’t give in to assertive students. They appreciate their say in the evaluation although this might cause them some trouble socially and morally: it’s difficult to criticize peers. Karla explicitly states: ‘In my group you’re an outcast when you criticize peers.’ Wendy however feels obliged to be honest: ‘When everything is always all right, there’s no reason for me anymore to do my best.’ They want the teacher’s voice to be decisive.

Two prospective teachers were confused about the status of the written case-analysis. They suggest to make it part of the assessment or to clarify its function: it’s frustrating when you invest a great deal of energy and it isn’t acknowledged. Nicole failed the assessment: ‘I didn’t realize we had to use conceptual knowledge in the presentation as well. I thought we just show our videocase’.

**Interpretation**

With regard to the assessment procedure three matters were put forward. First, the presentations are perceived to be informative and interesting as video is a motivating element. It would be a reasonable improvement to lengthen the presentation time to 20 minutes.

Second, prospective teachers appreciate to have a say in the evaluation but the quality of peer-assessment is dependant on the groups’s social relations and the individual’s self-confidence. Therefore it’s important that the tutor’s judgement is objective and decisive. Tutors can be supported by improved assessment criteria.

Thirdly, the function of the case-analysis wasn’t clear and must be improved. Some prospective teachers seem to hold on to a classic division of theory and practice: the written case-analysis is ‘theoretical’ and the presentation with video is ‘practice’. The intended learning goals (acquiring and using an analytical framework, transfer, engaging in professional discourse) are not achieved like this. To achieve that prospective teachers use conceptual knowledge as a cognitive tool in the presentation, the case-analysis may need more attention. An improvement of the intervention is the tutor paying more attention to the case-analysis and the transfer of knowledge.
6. Perceived learning results

In the interview was asked if there were any perceived learning effects. Prospective teachers report on three kinds of learning effects: they feel they have more knowledge, they know better how to act and have more alternatives at their disposal, and they developed a growing awareness and sensitivity in communication. Each individual emphasizes another of these aspects. We’ll give some examples. Leanne stresses the importance of knowledge about aggression because it results in more understanding for the parent and a more professional way of handling similar situations:

‘I do understand now that some people just explode; they give vent to their feelings. But if you know that, you can think by yourself: He doesn’t mean it like that. When you know it’s emotional aggression, you don’t need to take it personally, this is very reassuring. Or else you know it’s really serious and can turn out badly.’

Although the situation isn’t authentic, all prospective teachers agree on the usefulness of practicing their communication skills in constructing their own videocase. They mention several skills they learned: how to start a conversation, how to carry it on, how to improvise and how to deal with aggression. Karla for example notices also an increase in her self-confidence and points out that she learned much from her peers:

‘Until now I never dared to ask parents to leave the classroom in the morning. Now I know why I have to do it and that I should deal with it firmly but in a subtle way.’

Part-time prospective teacher Sas emphasizes a growing awareness of the teacher’s responsibility and the great added value of cooperation; improvement of communication skills is less important to her because of her work experience. Nonetheless she thinks the assignment of great value for part-time teachers to be because there’s a wide range in skills for communication and cooperation among them.

Interpretation

The learning results described by prospective teachers correspond to a high degree with the intervention’s intended learning goals. A positive though not measurable side effect, is the growing awareness and sensitivity about communication. Not everyone however learned the same thing or to the same degree.

Four prospective teachers point out explicitly that increased conceptual knowledge about communication supports their communications skills. Nick however doesn’t value conceptual knowledge much and Karla reports an improvement of her communication skills not because of conceptual knowledge but because of exchanging experiences with her peers. Thus, with respect to the learning goals the intervention aims at, we find that some prospective teachers consciously experience that the use of conceptual knowledge contributes to a better understanding and to an improvement of skills, and some don’t. There are no unambiguous reasons for this, but is seems likely that motivation and expectations play a role in this experience. Another possible reason is the case-subject: possibly the perceived learning result is greater working on an ‘exciting’ and relatively unknown subject like aggression than on a more familiar subject. Greater detail about the learning results we’ll find in the second part of this formative evaluation.
Summary
Prospective teachers’ experiences and their suggestions for improvement are the subject of the evaluation. We compared their stories to the intervention’s intentions and when we observed discrepancies we thought of improvements ourselves. Table 5.2 summarizes the main results.

<table>
<thead>
<tr>
<th>Experience</th>
<th>Experiences</th>
<th>Students’ suggestions for improvements</th>
<th>Researcher’s suggestions for improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course structure</td>
<td>Good practice; enough guidance and space; helpful for weak planners.</td>
<td>Extra optional consultation</td>
<td></td>
</tr>
<tr>
<td>Learning aids</td>
<td>a. assignment, criteria b. concept map</td>
<td>a. Assignments + criteria are clear. b. Concept map wasn’t finished. Concept map is used profoundly by two out of three students. References used by one student.</td>
<td>Clarification of concept map’s function and extensive introduction; Enhancement of concept map’s practicality by extension and adding links to digital sources.</td>
</tr>
<tr>
<td>(peer) Assessment</td>
<td>a. presentation b. procedure</td>
<td>a. Presentations are motivating and informative because of video; b. Having a say is fine, but tutor’s voice is decisive; Sequence-effect: groups benefit from preceding presentations.</td>
<td>Lengthen presentation time to 15 à 20 minutes.</td>
</tr>
<tr>
<td>Perceived learning results</td>
<td>Increased knowledge, knowing how to act, awareness and sensitivity.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5.2: Summary of main experiences and improvements
6. Method and results, part 2: Learning results

6.1 Method

Research questions and procedure
An exploration of the learning results is included in the formative evaluation to give an indication of the instructional design’s potential. This is important for it’s hypothesized that analyzing and interpreting (video)cases results in acquiring transferable knowledge. Because we are interested in a profound understanding of prospective teacher’s learning we used a qualitative approach and conducted three within-case analyses and a cross-case analysis to learn from (Yin, 2003). Two data sources were used and combined for the analyses. Each case contains an analysis of learning results, a portrayal of his learning activities and motivation, and an interpretation.

As one of the intervention’s main intended learning goals is the use of conceptual knowledge for interpreting a videocase, we first asked ourselves with regard to the learning results: ‘How do prospective teachers use conceptual knowledge to explain their own videocase? Data for analysis are collected by videorecording the prospective students’ presentations at the end of the course. Second, we wanted to know more about the relation between the learning results and ‘learning activities and motivation’. A profound and detailed understanding of prospective teachers’ learning activities and motivation is after all essential for guidance to improve the intervention, so we asked: ‘How do a prospective teacher’s activities and motivation relate to his use of conceptual knowledge?’

It was assumed that a positive attitude towards theory and a good deal of intrinsic motivation for the subject matter, would result in using conceptual knowledge correctly. To portray a person’s learning activities and motivation we re-used the evaluation interviews as a data source (see 4.1). Third, we combined these portrayals with the above mentioned ‘learning results-analysis’ and interpreted the findings in order to derive motivated improvements for the intervention. Finally, after the within-case analyses we did a cross-case analysis to find out significant patterns.

The data that were collected for the evaluation in part 1 are re-used, so a selection was made out of six interviews. To select a case the interview had to provide rich data, i.e. much information about the student’s activities and motivation. When the first case was selected, the next two cases were selected if they offered new information about a prospective teacher’s learning in comparison to the preceding case(s), to provide as differentiated a picture as possible. We also took into account the fact that prospective teachers can choose between three different videocases, thus working on different assignments. Because of this variation we thought it wise to include an example of each videocase in the analysis. As this study is a first exploration of learning results we did not account for inter-rater reliability.

Data-analysis
The videotaped presentations are analyzed for learning results. Learning results are understood as the actual and explicit use of conceptual knowledge for interpreting and analyzing a videocase. For every case a list of concepts (taken directly from the assessment criteria) served as a framework for analysis. Noted is also the (unexpected) use of concepts that were not obligatory according to the assessment criteria and researcher’s comments. Three categories were used in the analysis of the prospective teacher’s utterances:
- The concept is mentioned explicitly;
- The concept is interpreted/applied correct, i.e. related to videocase in meaningful way;
- The concept is interpreted/applied incorrectly, i.e. misunderstood or incorrectly related to videocase

Second, to find out how learning activities and motivation are related to the learning results, the interviews were examined for information about it. This information results in a prospective teacher’s portrayal. Third, the findings in the portrayal are combined with the learning results and interpreted, and consequences for the intervention are described.

The results are presented as 3 prospective teacher cases. Each case description includes:
- Summary of learning results-analysis;
• Portrayal of motivation and method;
• Interpretation: consequences for the intervention.
Finally, case findings are compared and meaningful patterns are searched for in a cross-case analysis.

6.2 Results

Case 1: Nick, a minimalist

Summary of Nick’s learning results
Four concepts are taken into account in the assessment: one is mentioned and adequately applied, one is applied but isn’t mentioned. Two other concepts lack in the presentation. Apart from these four concepts, Nick mentions and uses two other relevant concepts of the communication model (that’s part of the course). One of them is understood wrongly.
Comments: Nick emphasizes creating a positive atmosphere and maintaining relations with the parents because of the school’s strategic goal. Most attention is payed to the videocase. Several remarks show a good understanding of the situation.

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Concept mentioned</th>
<th>Concept applied correct</th>
<th>Concept applied incorrect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic goal</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td>General remarks about importance of positive relation and atmosphere.</td>
</tr>
<tr>
<td>Communicative goal: informative, persuasive, motivational, instructional, affecional</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Educational context: loyalty, expertise, responsibility, parent involvement, position trainee, communication policy and culture</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Communication skills</td>
<td>no</td>
<td>Partly ‘Blaming oneself; Giving space to parent; Asking informative questions.’</td>
<td></td>
<td>Some skills are described and their effect on the relation.</td>
</tr>
<tr>
<td>Extra concepts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referential aspect</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appealing aspect</td>
<td>yes</td>
<td></td>
<td>Confused with other aspects of communication model.</td>
<td></td>
</tr>
</tbody>
</table>

Tabel 6.1: Summary of Nick’s learning results

Portrayal of Nick
In the interview Nick gives an insight in his activities and motivation. He accomplished the assignment on communication as it was, but put his energy in making the videocase. Shooting video was motivating and great fun. Nick took on a role as a film director. ‘Doing something works best for me. I can’t remember much about theory’. He did not pay much attention to theory and studied only the concept map and his notes. This way of working explains the adding of two extra concepts in his presentation: in the class session they were explained by the tutor so they ended up in his notes, and could easily (although partly wrong) be integrated in the presentation. The concepts that had to be acquired by independent learning are not mentioned nor applied, unless on a general level (like ‘communication skills’).
Nick is ambiguous about the teaching education’s level in general. On the one hand he would like to be challenged more for he passess multiple choice tests easily (which is not the case for most prospective teachers in general). His self-image is very positive in this respect: ‘I may be too intelligent. I don’t understand them failing these tests.’ On the other hand it takes a lot of effort passing other assessments. Nick doubts the complexity of the communication assignment: the relevance for his professional practice was obvious, but more conceptual knowledge might have been required.

In general Nick has motivation problems with studying theory. On very few occasions he likes to read, but as soon as this intrinsic motivation is leaving him, he quits. Level and accessibility of literature do bother him as well. Nick gives several examples: ‘A history book was really interesting so I kept on reading, but like for science education, it was difficult, I put it away.’ Nick limited his reading for the communication assignment to the concept map. ‘It was easy and I got the information when I needed it.’ Nick experiences little extrinsic motivation for studying theory. In the past one-and-a-half year he passed several assessments without studying texts. Therefore he adjusted his methods to the minimally required standards: if studying theory isn’t necessary, why bother? In this way he also worked on the communication assignment and it brought grist to his mill because he passed.

**Interpretation**

Nick’s way of studying can be defined as convenient and superficial, with a preference for practical activities. earlier characterized as minimalistic. There’s an obvious discrepancy between his beliefs and behaviour: he believes standards should be higher and that he could easily achieve that, but he does not want to put in any effort. His intrinsic motivation to achieve high results is limited. Analysis of the learning results show that Nick, strictly speaking, hardly applied any concepts adequately: one concept (strategical goal) is correctly named and applied. Although three more concepts are mentioned and/or applied, a clear understanding and meaningful relation to the videocase is lacking. Nicks superficial method results in a low-grade performance.

The presentation strikes one however as quite reasonable at first. A possible explanation for this impression is that Nick talks about the communicative situation with a degree of common sense, he doesn’t say anything obviously wrong. Interweaving of several concepts in the presentation and repeated emphasis on one concept contributes to the impression of a professional discourse as well. Common sense, interweaving concepts and repeating do build an impression of really applying conceptual knowledge. The assessment evaluation might be infiuenced by these factors.

The findings show that an undesirable, superficial learning process is allowed for in the intervention. Therefore it seems wise taking measures to encourage meaningful learning processes:

- Revision of assessment criteria (more concrete, higher level);
- More guidance and higher standards for case-analysis

**Case 2: Sas, a maximalist (career change)**

**Summary of Sas’ learning results**

Four concepts are taken into account in the assessment and they are all mentioned. Three are applied adequately, one isn’t understood completely (expressive element).

The ‘factors in educational context’ are explained extensively, although several concepts are not clearly distinct. The concept ‘Communication skills’ is named, but interpreting it went with great difficulty. Two extra concepts are added, communicative and strategic goal, but they are not applied.

Comments: Prospective teachers emphasize their cooperation, consensus and personal opinions. The presentation shows a good understanding of the situation and a great awareness of the teacher’s role.
<table>
<thead>
<tr>
<th>Concepts</th>
<th>Concept mentioned</th>
<th>Concept applied correct</th>
<th>Concept applied incorrect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive aspect</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Concept put in perspective of communication model</td>
</tr>
<tr>
<td>Relational aspect</td>
<td>yes</td>
<td>Mainly right. ‘Always open for parents, willing to communicate, taking them seriously, working cooperatively, wanting to help.’</td>
<td>Partly wrong. Confused with expressive element.</td>
<td>Concept put in perspective of communication model</td>
</tr>
<tr>
<td>Educational context: loyalty, expertise, parent involvement, position trainee, communication policy and culture</td>
<td>yes</td>
<td>Organisation culture Position trainee Expertise Responsibility</td>
<td>Explained extensively. Consensus about relational aspect, diverging opinions on handling the situation. Several concepts are not clearly distinct. Loyalty isn’t mentioned.</td>
<td></td>
</tr>
<tr>
<td>Communication skills: sending and receiving skills</td>
<td>yes</td>
<td>‘Eye contact’ ‘Determining action points’</td>
<td>-</td>
<td>Skills are named with great effort, after tutor asking</td>
</tr>
<tr>
<td>Extra concepts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicative goal: informative, persuasive, motivational, instructional, affectional</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Strategic goal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tabel 6.2: Summary of Sas’ learning results

**Portrayal of Sas**

In the interview Sas goes into her methods and motivation at great length. She accomplished the communication assignment as it was, and focused on conceptual knowledge and exchanging ideas with her peers. Improvement of her communication skills is of less importance to her as she already feels competent because of work-experience (in another field). Naturally she puts the assignment in a curriculum and professional perspective, mentioning it’s educational purpose and its relevance for teacher’s practice.

Her attitude towards learning is self-regulating. She prefers to work independently and self-directedly. The communication assignment required more of this attitude than other assignments and that’s why Sas really liked it. The efficient use of class time and the tutor’s availability suit her independent and self-directed attitude very well, she says.

Sas has a great motivation for the teacher education: she is in the middle of a career change. A profound theoretical knowledge base and solid written assignments are important to her. She relates her attitude to her current work environment: she is used to work with academics and to apply high standards for careful argumentation. Therefore it seemed natural to her to study the concept map and the literature it referred to extensively. As she grasped the curriculum design and aims she also took a look at last year’s assignment to refresh her knowledge. Sas put a lot of energy in the written case analysis ‘to prove to the teacher that we understand and know about conceptual knowledge’. This motivation seems to suggest a traditional view on assessment: comprehension of conceptual knowledge is proved in a paper. Sas does not question the assignment’s value, she takes it on trust and always tries to make most of it.

Sas remarks on the added value of cooperation. She and her peers were passionately engaged in discussions (triggered by the videocase) about dilemma’s teacher face in communication with parents. ‘Where do a teacher’s responsibility and expertise end, what style of communication is professional,
how do our personal styles vary?’ This deep interest in the professional practice and personal opinions is mirrored in the presentation.

**Interpretation**

Sas’ way of studying is independent and self-regulative, earlier typified as maximalist. She prefers activities like discussion and reading and shows a positive attitude towards conceptual knowledge. She does not focus on improving skills because, as an adult with work-experience she already feels competent. She feels intrinsically motivated to learn.

Analysis of the learning results show that her method results in naming six concepts during the presentation. Two of them are applied rather well and extensively (focus on educational context), however four concepts do not get related to the videocase in a meaningful way. There is a diffuse interpretation of several concepts. In the presentation Sas shows otherwise a reasonable and adult understanding of the communicative situation and all the elements involved.

These findings show that even an ‘ideal’ prospective teacher who meets all the requirements (motivated to learn, positive attitude towards conceptual knowledge, working according to the assignment, self-regulating) does not use and apply concepts flawlessly. We find no ground for improvements of the intervention immediately, but we realise once more the complexity of acquiring and applying an analytical framework.

**Case 3: Leanne, a maximalist**

**Summary of Leanne’s learning results**

Five concepts are taken into account in the assessment, and three of them are mentioned and interpreted rightly. Two concepts are interpreted rightly (but not named explicitly), although the ‘educational context’ is interpreted in a common sense way. Two extra concepts are added.

Comment: The presentation shows a good understanding of the situation and of conceptual knowledge.

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Concept mentioned</th>
<th>Concept applied correct</th>
<th>Concept applied incorrect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional and instrumental aggression</td>
<td>yes</td>
<td>yes· ‘Primary reaction, not plotted’. Characteristics are described.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Strategic goal</td>
<td>yes</td>
<td>yes· ‘Create safe and trusted environment for children and parents’. Examples from own experience added.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Communicative goal: informative, persuasive, motivational, instructional, affectional</td>
<td>yes</td>
<td>yes. Persuasive and affectional are explained and applied.</td>
<td>-</td>
<td>Relation between strategic and communicative goal is clarified.</td>
</tr>
<tr>
<td>Educational context: loyalty, expertise, responsibility, parent involvement, position trainee, communication policy and culture</td>
<td>no</td>
<td>Responsibility, expertise are somewhat explained.</td>
<td>-</td>
<td>Mainly at common sense level.</td>
</tr>
<tr>
<td>Communication skills: sending and receiving skills</td>
<td>no</td>
<td>Say hello; Listen actively; Take on relaxed attitude; Summarize; Ask questions; Offer solution; End positively.</td>
<td>-</td>
<td>In literature on aggression, communication skills and stages in conversation are</td>
</tr>
</tbody>
</table>
Videocases in teacher communication competencies

Table 6.3 Summary of Leanne’s learning results

<table>
<thead>
<tr>
<th>Extra concepts</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sender, recipient</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Portrayal of Leanne**
Leanne accomplished the communication assignment as it was. In general her attitude towards learning is self-regulating. She characterizes herself and the friends she usually works together with as ‘active and determined students.’ The independent and self-directed way of learning in the communication assignment suits her well. However, Leanne knows many peers ‘that really need guidance and help with (planning and accomplishing) their assignments’.

Acquiring conceptual knowledge is an interesting element of teacher education for Leanne. With respect to the communication assessment she thinks it’s also relevant to give proof of professional skills ‘because you can show communication skills’. In general nonetheless, the emphasis should not be on practice. Leonne is motivated for the teacher education programme. The subject matter of the communication assignment in particular mattered to her. She never experienced aggression in communication but expects it to happen in her professional practice. Leanne considers it a challenge to be prepared and wants to learn how to (re)act professionally. Although accidentally there was only a week’s notice for the case-analysis, Leanne put in a lot of effort to complete it.

Acknowledgment of her performance is important to Leanne to stay motivated. She was a little frustrated because the case-analysis was not graded and the presentation time was too limited ‘to tell everything properly’. Leanne notices that a lot of her peers hardly study any theory at all; she feels part of a minority. ‘If a performance is really bad, I think it’s all right failing the assessment. Otherwise I never have to do my best’.

Leanne studied the aggressive-parent-case and the involved literature the tutor passed on. She did not use the concept map as it was not completed yet; therefore Leanne did not come across the concept and literature about ‘educational context’ which explains the common sense-interpretation of this concept in the presentation.

**Interpretation**
Leanne is intrinsically motivated to learn and achieve highly. Her way of studying is self-regulative, focused on the connection of conceptual knowledge and improvement of skills (because of a lack of experience with professional communication), earlier typified as maximalist.

Analysis of the learning results show that her method results in a good performance: three concepts are mentioned, four are interpreted well, and one concept is interpreted only on a common sense level.

The intended learning process seems to have taken place: analytical concepts are used as an interpretative framework for communication. As the concept map was not completed, Leanne could not use it and missed out on some references. To make sure all prospective teachers have access to all sources at any time it would be an improvement to enhance the concept map with links and digital sources.

**6.3 Cross-case analysis**

In this study we first examined how prospective teachers use conceptual knowledge to explain their videocases. It gave an indication which concepts they apply and to what extent. Next, attention was paid to the question how a prospective teacher’s activities and motivation relate to his use of concepts. Three cases give a broad picture of how the intervention turns out in the complex reality – and result in several useful improvements. The most important findings on the learning results are described shortly:
1. Level of processing conceptual knowledge and linking to practice is widely diverging
A minimalistic approach to the assignment involves little intrinsic motivation for theory and low expectations about learning effects. Emphasis is put on making video. This results in superficial use of concepts and common sense interpretations. A meaningful relation between concepts and professional practice isn’t established.
The adult prospective teacher (career change) shows a maximalist approach to the assignment. Emphasis is put on theory and discussion. Because of intens involvement, knowledge of life and work experience, the discourse about communication gives the impression of a profound understanding. Even though, concepts are not used in a perfectly clear way. A meaningful link between conceptual knowledge and professional practice is established, but not flawlessly. A third case shows another maximalist approach. Emphasis is put on improvement of communication skills and conceptual knowledge. This results in a meaningful link of conceptual knowledge and practice, and a rather clear comprehension of concepts.

2. Common sense interpretation
When prospective teachers have not studied certain concepts, they are ignored or interpreted based on common knowledge. The latter we indicated as common sense. Intuitively the communicative situation is interpreted rather well, but there’s no professional discourse as the interpretative framework to speak about communication is lacking. Finally, one concept (educational context) is interpreted superficially by all three prospective teachers. This concept needs clarification in assignment and assessment criteria.

3. Improvements
- Revision of assessment criteria (more concrete, higher level);
- More guidance and higher standards for case-analysis;
- Enhancement of concept map’s practicality with links and digital sources;
- Clarification of ‘educational context’ in assignment and assessment criteria.
7. Concluding remarks and discussion

This formative evaluation included a study of the intervention’s practicality and a study exploring the first learning results, with the aim of improving the intervention’s practicality and gaining insight in the design’s potential. The main findings are put in the perspective of the instructional and curriculum design.

7.1 Concluding remarks

Practicality
The basic shape of the intervention is evaluated positively by prospective teachers. The recommendations for the intervention’s improvement involve mainly two aspects: First, several elements of the assessment procedure should be adjusted. Besides, the tutor should give more guidance and apply higher standards to the preliminary case-analysis, in order to encourage knowledge transfer. Together these improvements may realize a higher quality assessment. Second, recommendations are made for the concept map. Enhancement of its practicality is recommended by adding links to digital sources and by giving prospective teachers a profound introduction to its functionality.

Design
We found that learning processes do not evolve for all prospective teachers according to the pedagogical model that underlies the instructional design. The order of the learning processes is different for the so-called ‘videomaker’. She makes a video first (applying) and starts analyzing and interpreting afterwards (analyzing). This method certainly brings about a link between conceptual knowledge and practice, but it is not very efficient as skills are not improved.

With regard to the learning environment, we found that the concept map was used unexpectedly as a primary source of information. It was intended to be a scaffolding tool and to serve as a reference to other (non digital)sources. We think the concept map’s practicality will be enhanced when its reference function is extended to an information function, so it can be used as a primary source. After all, only when prospective teachers really use the concept map we can study its possible effect.

The videocases in the learning environment were developed to trigger discussion among prospective teachers. According to them and the tutors they brought about a lot of debate.

Design’s potential
The findings involving learning results show diverging performances from weak to good. Motivation and a positive attitude towards learning do not guarantee optimal learning results (Sas). On the other hand, Leanne’s learning results give a positive indication of the intervention’s potential.

Retrospectively, possible explanations for the diverging results may be offered by Cognitive Flexibility Theory. According to CFT, for advanced learning prospective teachers should analyse several cases to grasp the meaning of concepts in an ill-structured domain. Our prospective teachers haven’t had this opportunity yet; put in this perspective, the learning results may be considered encouraging. According to the curriculum design prospective teachers will study more cases in the following years of the programme. Another explanation for the diverging learning results may be found in the preceding stage of introductory learning: in the first year’s course prospective teachers are supposed to acquire the basics of the analytical framework. Possibly more attention has to be payed to this initial acquirement of an analytical framework.

7.2 Discussion
This study also raised questions and confronted us with some difficulties.

Assessing common sense?
The findings cast a light on a sensitive matter: the culture of assessing in the teacher education institute. Even though the tutors’ intuitive taxing of the learning results corresponds with the analysis of the learning results, one tutor evaluates positively a presentation that does not meet the assessment criteria at all. Why does it happen? Rather speculatively, although based on informal tutor evaluations,
we suggest some possible explanations. Tutors do not like to make prospective students fail an assessment in front of their peers; besides it negatively impacts the group atmosphere. The assessment procedure may put them in an awkward position, as they have to pass judgement quickly and face-to-face. Another explanation has to do with what we called ‘common sense interpretation’: as communication is understood intuitively fairly well, teachers to be talk about it fairly reasonably at a first glance. Tutors have to be particularly alert and attentive in applying the assessment criteria for they can easily be distracted by the general sensible impression.

In a broader perspective this raises a question about the assessment culture in teacher education: what kind of standards are usually applied? Do tutors usually have a critical attitude or do they put a positive relation with the prospective teachers before it? Some teachers to be have their doubts about the assessment culture. We do not want to draw any premature conclusions about the quality of assessment in teacher education, but we notice that the general culture among prospective teachers and tutors does not encourage in depth learning of conceptual knowledge. To raise the level of theory-practice interaction it is wise to pay more attention to conceptual knowledge.

Cracking a walnut with a sledge hammer?
Finally, in this study a lot of attention is paid to the practicality of the intervention. Is this justified or is a sledge hammer taken to crack a walnut? Paying careful attention to the practicality of a design is a characteristic for design research, as many educational interventions fail for disregarding the specific needs of ‘users’ and the specific features and contrainsts of the context in which the intervention is implemented. We think the interviews with prospective teachers (and tutors) brought in a lot of detailed information that is necessary for optimizing the intervention.

The analysis of learning results just provides for an indication of the design’s potential. In this stage we did not account for inter-rater reliability. To obtain reliable results, more (interdisciplinary) analysts should participate in the analysis and the procedure for analyzing videotaped presentations should be elaborated and developed in future research. However, the cross-case analysis brought about valuable insights in actual teacher learning and the way the intervention functioned in reality. Based on this detailed information a contribution can be made to the understanding of teacher learning and the learning processes that are invoked by videocases. Furthermore, we think that detailed information increases chances for a succesful implementation of the curriculum design.

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References


