Influencing and facilitating conditions for developing reflective assessment practice

By following a professional development project focusing on enhancing assessment competence amongst teachers, the current study examines how teachers use reflective writing and systematic discussions as tools for developing professional competence in assessment. More specifically, the paper aims at identifying conditions which influence and facilitate reflection over time. The study was a small scale qualitative study, and the analysis draws on nine teachers' written and oral reflections. The findings suggest that it

is possible to identify three closely connected development phases; describing, explaining, and exploring the level of action. By studying the reflection processes throughout these three phases the paper illuminates various aspects of reflection as a tool in teachers' professional development.

Keywords: Professional development; reflection; assessment; teachers

Introduction

During the last decade assessment has repeatedly been defined as a key element in order to enhance students' performance (Black & Wiliam, 2009; Gibbs & Simpson, 2003; Hattie & Timperley, 2007; Sadler, 1998). However, it seems to be a complex process to implement effective assessment practices in the education system. First of all teachers need to enhance their own competence within the area of assessment (Smith, 2011). Such a process would ideally initiate some form of systematic professional development, a change in existing

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teaching practice, leading to better student performance (Timperley & Alton-Lee, 2008). However, this is not always the case. Teachers and school leaders are exposed to a significant amount of courses, seminars, literature, and policy documents telling them what to do and how to do it. Still, there are few signs of systematic and sustainable development and improvement of assessment practice in the educational system (Throndsen, 2011).

This paper discusses findings from an intervention-study examining how teachers used reflection as a tool over a period of two years for enhancing competence within the field of assessment. The question we ask is what influences and facilitates reflection over time when it is used for professional development in assessment. To find a plausible answer to this question we studied a professional development project focusing on enhancing teachers' assessment competence.

Reflection as a tool in a professional development perspective

According to Carr and Skinner (2009) teachers strive to improve their professional status, and this aspiration has put a focus on the need for teachers to be able to make reflections based on theoretical knowledge. We agree with Van Manen (1977) and his claim that an absence of theoretical knowledge and interpretative frameworks would leave the teachers with strictly technical application of predefined educational knowledge. However, the practice of teaching is more than just "hands-on" skills (Hansén et al., 2005).

Our understanding of reflection relates to Dewey (1933) and his distinction between routine action and reflective action. Whilst the first type of action is externally driven or initiated by factors outside the individual, the latter one draws on the person's internal willingness or need to solve a problem. Such a process implies the individual's active considerations grounded in

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prior knowledge and evaluation of different outcomes related to the problem at hand. Reflection informed by evidence and knowledge is used to inform future action. Or as Dewey puts it; "… [Reflection] enables us to know what we are about when we act." (1933, p 17). By this he defines reflection as more than just thinking about one's action, and as professional development for teachers has gained increased focus, reflection and reflective practice has become even more important in education (Hansén et al., 2005).

Elaborating on Dewey's theories several models on how to structure reflection have been launched (Pollard, 1997; Schön, 1995; Van Manen, 1977). One of the best known is perhaps Korthagen 's ALACT model (as cited in Korthagen &Kessel,1998) named after its five phases, action, looking back, awareness of essential aspects, creating alternative methods of action, and the last and fifth phase, trial, from which phase one starts again. The model provides a practical guide for teachers who want to use reflection to change their teaching practice. Korthagen and Vasalos introduced the notion of core reflection in 2005, and they focus on levels in reflection related to teacher identity and mission, not on the theoretical aspects of the teaching practice. Few models explicitly relate to the development of depth in reflection. Carr and Skinner (2009) claim teachers need to reflect at a deeper level in order to implement sustainable changes in their practice, and that the theoretical aspects of reflection are often ignored.

Van Manen (1977) and Handal (Handal, 1991) have both developed theories and taxonomic models for linking theory and practice to achieve a deeper level of reflection. Van Manen's first level confines the practical actions to adapting technical applications and curricula given recommendations telling how to achieve certain learning objectives. This corresponds to the

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first step in Handal's (1991) model of practical theory, where teachers are mainly occupied

with what to do and how to plan their teaching. Hence, reflection at this level is likely to be

more descriptive than reflective. The next of Van Manen's three levels of reflective practice

focuses on an interpretative understanding of experience and the making of practical choices.

Handal elaborates this a bit further in his second step and implements practical and theoretical

reasoning or the "why" of teaching. At this level reflection tends to become more focused on

explanation and clarity. The last of Van Manen's levels, relates practice to the moral value of

educational goals and experiences, whereas Handal uses the notion ethical justifications.

Reflection at this level means that "...the practical addresses itself, reflectively, to the question

of the worth of knowledge and to the nature of the social conditions necessary for raising the

question of worthwhileness in the first place" (Van Manen, 1977, p 227). The third level is

seen as the highest level of reflection and implies a certain theoretical insight as a basis as

well as a moral dimension. At this level reflection seems to move in an explorative direction.

During the last four decades, much research has been conducted on the relationship between

teachers' professional development and reflection (Brill, 2010; Carr & Skinner, 2009; Day,

1993; Pollard & Anderson, 2008; Postholm, 2008). Day (1993) relates reflection to the

process of deconstructing and reconstructing meaning. Through oral or written reflection the

teachers' personal theory becomes explicit and public, thus made possible for others to

examine through collective deconstruction and reconstruction. Amongst others, Day (1993)

refers to Handal (1991) and his three levels when describing teachers' reflections, and he

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claims teachers tend to stop at the first level. Furthermore, Day (1993) points to the 'busyness'

of the schools as one of the main reasons behind this, and as a consequence teachers spend

more time on constructing practice (level 1) than on deconstructing and reconstructing

practice through observation and reflection (level 2 and 3).

We have adopted Davis' (2006) definition when we refer to reflection. Accordingly, in the

current study a reflective text is what the teachers wrote when they were asked to reflect.

Davis (2006) does not distinguish between levels, but uses the terms productive or

unproductive to describe the quality of the reflection. In our data we found different types of

reflection within what Davis calls productive reflection and decided on Handal (1991) and

Van Manen's (1977) hierarchical framework as preferable. We then combined it with Davis'

(2006) definition on what to call a reflection or not.

Earlier research does not extensively document in-depth reflection processes over time. It also

needs to be pointed out that Handal's and Van Manen's theories and models are not explicitly

supported by systematic empirical findings. In this article we point at some characteristics

related to a reflective process over time and we take a closer look at what seems to influence

and facilitate these processes at different stages.

The study

The study was part of a larger professional development project focusing on enhancing

teachers' competence within assessment for learning. "The three year Research and

Development (R&D) project aimed at developing an assessment for learning culture in

two Norwegian elementary schools through learning about and implementing new

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assessment activities" (Smith & Engelsen, 2012:3 online version). The specific data used in the study this article refers to, originate from the two-year intervention phase, and it was one of several studies carried out within the overarching project. During this intervention period nine teachers collaborated with four researchers in a project team which met regularly every two weeks. The first aim of these meetings was to provide a systematic framework for reflection which the teachers could relate to during the process. A second aim was to discuss classroom assessment practice and develop appropriate criteria for such practice. The third and last aim was to elaborate on the teachers' written reflections in relation to theory about

assessment for learning and discus different conceptions of what good assessment practice was all about.

The intervention focused mainly on reflective writing and oral discussions within a systematic framework built on theory related to Shön's model of the reflective practitioner (1983),

Korthagen's ALACT-model (as cited in Korthagen &Kessel,1998), and models suggested by

Timperley et. al. (2007). The reflective process followed the same steps throughout the intervention; 1) new input on theory related to classroom practice, 2) intervention with practice, 3) writing reflections related to practical experience, 4) evaluating and discussing new experiences, and 5) starting the spiral over again with input.

The two-year intervention period can be divided into three phases. In the first phase the participating teachers and researchers discussed how good assessment practice was to be understood in relation to the teachers' own school contexts. A set of 30 tentative criteria for good assessment practice was presented by the researchers. The teachers were invited to

discuss the criteria, and at the end a joint understanding of a set of thirteen criteria was achieved (see Engelsen & Smith, 2010).

During the second phase the teachers started to describe their own understandings and beliefs about themselves as teachers. The discussions circled around their own teaching practice and different theoretical and didactical approaches to teaching and learning with the aim of uncovering implicit conceptions about assessment amongst the teachers. The theoretical lectures, closely related to the different issues the teachers faced in their classroom practice, were given by the research team, and the teachers wrote reflections around topics, statements or sometimes whole articles presented by the researchers.

The third phase had to do with adjustment and implementation of the 13 criteria developed in the first phase. The teachers concentrated on two-three criteria for two weeks and discussed how these criteria could be incorporated in their teaching at the following project meeting.

Methods and analysis

The question this article seeks to examine is what influences and facilitates reflection over time when it is used for professional development. Such questions, concerned with the nature of reality, change and development, call for qualitatively oriented methods (Creswell, 2007; Silverman, 2006). Every framework developed to guide inquiry on methodological issues can only contain partial truths (Seale et al., 2004), and the qualitatively oriented framework used in this study is no exception. People tell stories, and there is a close relationship between stories told and the storyteller's identity (Connelly & Clandinin, 2006). However, the stories told can never be wholly personal. They will always be a result of how we perceive reality and how we interpret experiences and re-construct meaning to fit in with the already existing socio-historical context of which we are members (Andrews et al., 2004). The current study

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examined reflective texts as stories in order to indicate what affected the reflection process over time.

Analysis

We have used text analysis as a methodological approach to our empirical material, a material consisting of reflections from different phases of the intervention period. Initially we wanted the teachers to express themselves in open online blogs. We saw it as valuable for the teachers to immediately start sharing their experiences, not just with us as researchers, but also with each other. Through blogging also people who did not participate could follow. However, none of the teachers were familiar with the use of blogs and had concerns about going public with their writings. As we could not afford the teachers being negative and restricted in their writing, we decided to collect the texts as e-mails in the first phase. When we entered the second phase the teachers were more confident in their writing and willing to use blogs as a medium. Even though this worked out as intended, we had to address issues of confidentiality when entering the last phase. Reflections at this stage would necessarily contain references to recognisable classroom episodes. Hence, open blogs were considered inappropriate. Apparently the teachers were familiar with online forum discussions which opened up for the possibility of keeping the discussions amongst the participants and still have the opportunity to share and comment within the group. The reflective texts were different in form, depending on which phase they were written in, but whether collected through e-mail, blogs or online forum, they all told parts of the teachers' experiences as participants in the project.

In addition to these texts, field notes (Silverman, 2010) were taken during the project meetings. These notes were written in two columns, one representing the situation as it occurred, the other for the researchers' reflections and thoughts as the observed situation

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evolved. This way the field notes could be used to summarize what the teachers agreed upon during discussions and also to document the researchers' continuous reflections.

In the first step of the analyses the teachers' written reflections were organised and structured chronologically into nine texts consisting of summaries and extracts. Each text represented the story of one of the participating teachers. The field notes were organised into one text representing the researchers' chronological reflections.

The text analysis went through five steps, taken from Yoder-Wise and Kowalski's (2003) model for creating stories. At first we looked for recurring themes and identified concurrent, critical events (Webster, 2007) across the texts. Whether an event is to be defined as critical or not, depends on the impact it has on the person who experiences it, in this case the teacher (Bohl, 1995). Three such events were identified and dealt with as separate critical events. Each of these events affected the teachers' reflections. The critical events were 1) decision of joining the project, 2) publication of the Pisa results and 3) a study tour abroad for both teachers and researchers. The second step in the analytical process was to look for what consequences the teachers focused on when referring to these critical events in form of cause and effect of the choices made. The third step concentrated on examining how the teachers' reflections related to what they had experienced and learned. In the fourth step we looked for what the teachers thought worked in their teaching practice, and in the fifth step we looked for what the teachers thought went wrong. After these five steps we ended up with nine teacher stories and one story from the researchers' perspective. Finally we went through all the texts to identify similarities pointing at facilitating and influencing aspects, both in the teachers'

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stories and in specific contextual issues in the researchers' story. Yoder-Wise and Kowalski

(2003) include two more steps in their model building for future experience and exploring

other resources i.e. literature movies etc. These last two steps are included as parts of the

discussion in the current article.

Throughout the analysis process it was of crucial importance to be aware of our own

predispositions, experiences and beliefs as researchers, about the phenomena under

examination. Creswell (2007) emphasises this aspect because of its influence on the

interpretations. Furthermore he points to the necessity of involving the participants in the

validation process. To cover this aspect all participants were consulted on a regular basis to

comment, verify, reject or discuss possible interpretations of the material. Such consultations

could take place in the regular project meetings where preliminary findings and analysis were

presented to the teachers and their school leaders, or in sessions with the research team.

Findings

The findings are organised in accordance with the three phases. This way we were able to

focus on what influenced reflection related to professional development within assessment at

different stages, and also on how facilitating factors changed during the study.

Phase 1, Justification of current practice

In the first phase the teachers' reflections were closely related to the level of action and

influenced by a need for justification of current practice. Extracts underpinning such a

statement referred to the participants' use of past experiences to justify the existing practice on

how assessment should be carried out, rather than suggesting changes in order to facilitate

development. The teachers' decision on joining the project was identified as a critical event at this stage due to the influence it had on the reflective writing. Yet, the texts appeared to be inconsistent when it came to reflecting over the need for changes in the assessment practice and at the same time holding on to existing practice as the preferable one. During this phase the teachers discussed 30 different criteria describing good assessment practice in order to reach an agreement over a selection of the ten most important ones. In one of the project meetings the teachers discussed the criteria 'The teachers clearly explain what the students are expected to learn.' One of the teachers immediately replied "This must be important because we already do this today!" Which criteria to be put on the final list were often made in light of past and existing practice, and the teachers never explicitly supported their views by using theoretical explanations.

Another feature expressed in the teachers' reflections at this early stage was that they felt they should keep on doing what they already did, and just do more of it.

> "I wish we had time to give every student feedback almost every day. I can see that we
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> manage this with the students' reading, and that is good. In reading the students get
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> feedback every day." (Helen, teacher. Sept 2007)

This quotation is a typical articulation of a reflection relating to existing practice at the time, and it is also a representative quote to exemplify how the teachers believed that doing more of what they already did, would make existing practice better.

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Analysis of the first phase shows two distinct features. First, the reflections were to a large extent influenced by what Handal (1991) and Van Manen (1977) refer to as the level of action. This may have contributed to the descriptive form. Secondly, the reflections were also facilitated by this level. The teachers used the level of action in order to justify what we call a self-explaining spiral. Even though the reflective process was present, there were no significant signs of reflection beyond hands-on skills (Hansén et al., 2005) and on how to cope with practical issues. The fact that most of the participating teachers had no experience with reflective writing, or had not been practicing this sort of writing after leaving teacher education, should be taken into account. The lack of experience with writing in this genre may have affected the depth of the texts.

Phase 2. Theorising about new experiences

In the mid face the teachers' reflections were not just descriptive in relation to own practice,

but also concerned with defending and explaining it. Extracts show a tendency towards meta-reflections on recent experiences in both classroom practice and in the collective discourse. The phase was categorised as 'theorising new experiences'. The teachers linked different

classroom experiences together and formed statements or questions based on the essence of these experiences. The reflections also started to point forward and suggest improvements. The participants used the team meetings to discuss learning theory and different didactical approaches to teaching and assessment. At the time the public debate focused on the poor results Norway attained in the PISA-test of 2007, and this was identified as the critical event in this phase. The teachers were defensive and blamed the school authorities for giving them too many tasks and responsibilities. Below is one example where Tina tells about her frustration by repeatedly being compared with the Finnish school system.

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The schools in Finland haven't got these constant new reforms to adapt to all the time. Here

we have the feeling of not finishing adapting our teaching to one reform before a new one is

on its way. New trends are to be followed all the time. (Tina, teacher, February 2008.)

Several teachers brought up similar issues. The public criticism of Norwegian teachers was

harsh and difficult for many teachers to handle, and as a consequence teachers were forced to

reflect not only descriptively on existing practice, but also to make explicit why existing

practice was to be preferred.

Being placed at the centre of public criticism also led to existential questions, not only

concerning the teachers' own practice, but professional beliefs and identity, which again, for

some teachers, lead to reflections with emerging theoretical tendencies. The next quote is

taken from Tessa and her idea on how to create a good school. The discussion in the project

team meeting leading up to this statement focused on what a good school meant and how

different theoretical approaches could lead to different practical choices.

"Learning can occur within the school context when students and teachers meet to share

experiences. If we want to have a modern school, the teachers have to know more than

the subjects they teach. Tiller claims that the teachers also have to know their students"

(Tessa, teacher, April 2008).

Here we can see one of the first references to pedagogical theory. This teacher had started to

read Tom Tiller[1] and his book on action research as a methodology to change and develop

schools and education. The teacher also used Tiller's work to support her view on what

contributed to good education.

Most of the teachers took a more or less pragmatic theoretical position; still they started to

base their views on reflections around different theories in both oral and written discussions.

This became observable during team meetings and planning sessions. Step by step the

teachers began to use new words, and theoretically based notions appeared more frequently,

embedded in discussions aimed at explaining different classroom experiences.

At this stage the teachers' reflections were influenced and facilitated by two interacting

conditions. The texts explicitly drew upon theory presented by the researchers in lectures and

literature on assessment. This can be seen as external influence, but equally important, the

reflections seem to be facilitated by the teachers' internal need to explain and clarify present

state of affairs. As a result they also looked more critically at their own practice.

Phase 3. Professionalising new practice

When the last phase started the reflections were increasingly deeper and more self-exploring.

The aim of this phase was to implement the 13 criteria from phase one into classroom practice

and to gain experiences related to how these criteria could support assessment. The phase can

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[1] Tiller, T. (2004). *Aksjonsforskning i skole og utdanning*. Kristiansand: Høyskoleforl.[Action research in schools and education]

be characterised by the teachers' attempts to 'professionalise new practice'. The reflections

were closely related to practice, but in a more critical and inquisitive way. The critical event

during this phase was a study-tour to a school district abroad, where assessment for learning

was being implemented at a large scale both in primary and secondary school. On this tour

not only best practise, but also challenges and pit-falls were presented in meetings with school

principals and teachers. The participants in our study explicitly pointed out this experience as

an important reason why they changed their way of thinking about assessment. "We have to

start trying things out and dare make the changes we believe will work for our students", one

of the teachers stated at the first project meeting after the study-trip. The teachers now found

it more natural to reveal both strengths and weaknesses in their practice. Hence, the

reflections seemed to relate to a more authentic practice than beforehand. Liz describes her

experience with letting the students reflect on how they achieved learning goals after a session

like this:

> "We wanted the children to discuss among themselves. But this was really hard. I don't think
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> the children understood what we wanted them to do, and I don't think we did either. The
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> question to be discussed was probably too hard or a bit fuzzy. This experiment was either way
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> a total failure." (Liz, teacher. October, 2008)

This short excerpt was discussed at the following project meeting. How was this particular

situation to be understood? What went wrong and why? Theory and past experiences were

discussed and the teacher decided to try again, this time with a completely different outcome.

The teacher explained to the students what was expected of them during the exercise, and the

students were presented with the idea of why reflecting on learning outcomes would help

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them organise their own learning. The teacher, supported by colleagues, described this second attempt as a success and concluded with the following statement:

> Good assessment = good learning! It's only the teacher that can provide good teaching. A good teacher engages in the students' learning. She listens to their needs and makes the students' needs direct her teaching. The good teacher creates an environment where making mistakes is allowed. (Liz, teacher. November, 2008)

Implementation of the 13 criteria of good assessment practice depended on teachers prioritising differently when it came to managing the students' learning progress. The teachers started to critically combine different methods and to adapt them to fit the needs of their own students instead of just using a new recipe they had been given. Whilst working with the criteria the teachers also reflected on how becoming more knowledgeable about assessment would influence their whole teaching practice.

The teachers' reflections were facilitated by experience and knowledge gained from the study, and it came at the right time. The teachers also pointed out that they had to use what they had previously learned in the project in order to contextualise and apply this new knowledge in their own practice. Hence, the primary influencing condition in this last phase was the teachers' confidence in their own role as professional teachers. They expressed a willingness to make changes, and sometimes mistakes, in order to develop better practice.

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Summary

The findings can be displayed in a matrix as shown in table 1.

Table 1

	Facilitating conditions	**Influencing condition**
Phase 1 Descriptive	Teaching Practice	Teaching experience
Phase 2 Explaining	Theoretical knowledge	A need to explain and clarify
Phase 3 Explorative	Theoretical knowledge and experience	A confidence to explore new ideas

However, these conditions were not planned or prepared by the research team. They occurred as the project evolved and is therefore to be seen as conditions appearing when no attempt are made to implement specific conditions to support the reflection processes.

Discussion

When we look at the findings from the first phase of the project we identify a sincere desire amongst the teachers to enhance their assessment competence. They had high expectations of the project and how they would benefit from it. The decision on joining the project was also defined in the analysis as the critical event in this phase. As we started the project by challenging the teachers to reflect around various aspects of assessment as reflective texts, many of the participants did so rather reluctantly. Teachers acknowledging the writing methodology also struggled to get started and found the writing difficult. It was a new way to approach practice and the participants used some time to become familiar with the writing process. This can be interpreted as one reason why the texts were mainly descriptive and retrospective i.e. they handled everyday experiences in a reporting way without taking alternative or critical stands, and complies with findings in Hramiak et al. (2009) and

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Kerawalla et al. (2008). In their studies on student teachers writing reflective blogs, the first phase of learning to reflect involves being used to the writing process itself. The significant focus we found on the level of action, both as a facilitating and influencing condition, aligns with what Handal (1991) describes as the first level of reflection. The teachers were used to talking about what to do and how to do it, so this was what they wrote about in their reflections as well. They did not discuss situations or views that could be perceived as provocative or even as indirect criticism of existing practice. Apart from an almost polite common criticism of policy documents which increased their work load, the teachers hardly ever questioned any aspects of their own teaching practice. Instead they used teaching practice as a facilitating condition and the teaching experience as an influencing condition to justify and explain the level of action.

During this first phase the effort was placed on the justification of the state of art, and not on the change the teachers so eagerly proclaimed they wanted. Still, this phase had a significant value related to several aspects in the professional development process. First of all the participants became familiar with the methodology of writing, a process that was hard for many of the teachers to implement in their daily routines. Writing itself can be a self-exposing activity, especially when it comes to reflective texts, and the participating teachers needed time to become comfortable doing so. Secondly, this first phase forced the teachers to be explicit about describing their classroom activities. This also led to awareness around other participating teachers' practice. The participants developed a collective confidence and an

explicitly articulated agreement on how the current practice was preferred and why. This way the first phase was crucial in order to develop what Wenger (1998) describes as a well-functioning community of practice. Even though much of the reflection that took place in

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this phase can be characterised as unproductive (Davis, 2006), it had significant value as a preparatory phase.

When we look at how and why the reflections change in the second phase, we have to go back to the facilitating and influencing conditions again. The structure in the reflective process was the same; still the fundamental tone changed. The teachers experienced major external critique related to the Pisa-results, and this incidence can be seen as an initiating factor leading to development. At the beginning this external criticism led to an even stronger defensive justification of current practice, and the teachers blamed the school system. The teachers took the critique personally and pointed out factors beyond their influence and power, i.e. the constant reform pressure. Many reforms have been forced upon the Norwegian school system during the last 25 years. Hence, the teachers' critique was relevant. Several

studies (Cross & Hong, 2009; Goodson & Numan, 2002; Day & Gu, 2007) warn that without giving teachers the necessary time to adapt and the resources to develop a sense of ownership of the changes through realistic and feasible professional development initiatives, new reforms will eventually lead to demotivated and ineffective teachers. Day & Gu (2007) even claim that constantly shifting reforms tend to restrict the teachers' ability to learn and develop.

The interesting aspect in the current study is that the teachers did not remain in this mode of blaming external factors. They were allowed to place blame and wrote reflectively about it, but along the way some of the teachers started to turn their eyes on their own practice, and slowly started to question it. After defending how they had practised teaching in the first phase and blaming external factors at the start of the second one, these two topics seemed to dry out as the main triggers for reflection. The teachers became confident they could influence their own practice themselves instead.

We noticed that pedagogical theory started to become important to the teachers in support of their own views, and they justified new ways of organising teaching practice. This particular finding differs from a similar study on teachers' reflection on action conducted by Postholm (2008). In Postholm's study the teachers' use of theoretical approaches to articulate and problematize experiences from teaching practices are almost exclusively tacit. In our study the teachers deliberately used their newly achieved theoretical knowledge, and it became one of the conditions that influenced their reflections. Knowledge integration and analysis are pointed out by Davis (2006) as indicators of productive reflection. Even though we cannot claim that all of the teachers managed to integrate their knowledge and analyse their assessment practice reflectively during this level, we found that the teachers were influenced by a need to explain and clarify their teaching practice, and this need was facilitated by a growing theoretical knowledge.

In the third phase the reflections changed again. The structural framework still involved the five steps, but the reflections show that the teachers became more self-explorative than before, and they talked about success as well as failure. The focus in this phase was to implement the criteria for good assessment practice. Thus, different methods were critically discussed and reflected upon in order to deconstruct, combine and also sometimes reject a new didactical approach. In light of this we claim knowledge integration and analysis were prominent in the reflections at this stage. The teachers' reflections were influenced by a professional confidence to explore different ways of acting and a combination of theoretical knowledge and experience was facilitating the process.

Final conclusions

The backdrop for this article has been the fact that research on teachers' reflection over longer

time-spans has lacked adequate empirical support. Whereas different models of reflection

have been researched repeatedly, including various foci for reflection (see e.g. Handal, 1991;

Korthagen &Kessel, 1998; Shön, 1983;Van Manen, 1977) conditions affecting reflection over

time have been an area yet to be sufficiently examined. During the three phases we identified,

the structure of the reflective process stayed the same, still the facilitating and influencing

conditions changed. These conditions appeared naturally as the intervention period emerged.

We claim that the three phases build on each other**,** and that the last phase became possible

because of the two previous phases. A major concern related to projects working with

reflection as a methodological approach, is that they tend to finish after the first phase

(Hramiak et al., 2009), a phase we identified as a preparatory phase. This study contributes to

the understanding of what teachers use as influencing and facilitating conditions when

reflecting. And reflection as it evolved in this study can foster development. The

development went through three distinct phases where the reflections moved from being

descriptive to focusing on explaining, and finally to becoming explorative. Reflection is a

necessary condition for sustainable professional development (Carr & Skinner, 2009; Day,

1993; Korthagen & Kessel, 1998). However, the quality of reflection has to be seen in relation

to the facilitating and influencing conditions present in the specific phase it is performed. It

seems to be of less importance what structure the reflective process follows. Instead, more

importance is attached to whether reflections are productive or not (Davis, 2006).

The facilitating and influencing conditions we identified in this study occurred naturally, and

we have not evaluated them as being neither positive nor negative for the reflective process in

a normative manner. Whether it is possible and even desirable to deliberately change, these conditions should be further investigated.

The implicit limitations of this study involve generalisation, which is not possible due to the small sample, and the findings need to be handled with caution beyond the current context. On the other hand, in order to follow teachers and their reflective processes as closely as this study has done, one needs a small group of participants and constrained contexts in which to observe the participants. However, we recommend that findings from this study should be further examined by larger studies and in cross contextual environments.

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