

# Chapter 11

## Cooperative Learning About Assessment for Learning

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**Abstract** Assessment for learning (AfL) is salient in the rhetoric of policymakers and national steering documents in many countries. It has also been embraced by educators internationally, including those in Norway. However, despite the explicit positive intentions of all parties, there are many challenges in the process of AfL implementation in schools. One major challenge is the increased testing regime practised at a national level which presents teachers with the dilemma of whether to teach to the test to ensure high test scores or support learners in developing sustainable learning strategies. In other words, teachers often must choose between short-term and long-term learning effects. A second challenge is the isolation some teachers feel when practising AfL because it has not been integrated into the wider culture of their workplace; consequently, AfL is not valued equally by colleagues and school leadership. There is insufficient cooperation regarding AfL, and the stakeholders involved do not share a common assessment language. The current chapter presents a Norwegian project in which various stakeholders engaged in cooperative learning about assessment, focusing on the professional development in AfL of head teachers who lead subject matter teams. The project involved cooperation between a regional educational authority, an expert in assessment from the university (the researcher), the school principals, and four head teachers from each of five schools. The project's aim was to support head teachers' cooperative learning about how to improve assessment practice and to allow them to serve as agents of AfL in their own subject matter teams as well as in other teams in their schools.

### 11.1 Introduction

I was told by the principal to attend a half-day seminar on assessment for learning (AfL) given by a “big name” from the university. The seminar was good, and I became

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convinced that assessment is important for students' learning in terms of motivation and helping them believe in themselves as learners. But I was the only teacher from my school attending the seminar, and there was no follow up later on. How can it be expected that I shall make changes by myself when the assessment system in school is mainly based on testing to prepare the students for the final exam? Besides, I do not know enough about how to practise AfL even though there is a leaflet with a list of techniques published by the Ministry, and the seminar leader gave some really good examples. But I do not understand why the different techniques are helpful; they are just items on a list.

I need time to really learn about AfL, the theory behind it, as well as the possibility to develop my own ways of doing it and trying it out in my own classes. A four-hour seminar is not enough for teachers to make changes.

(Norwegian secondary school teacher)

This comment and others similar to it were expressed by multiple teachers encountered by the representative of a regional educational authority and by myself as a university researcher in the area of assessment. The teachers' comments guided us in the planning and administration of a yearlong professional learning project for secondary school teachers focusing on assessment for learning (AfL). AfL has been on the political education agenda in Norway for several years; however, despite multiple initiatives, problems with implementation have remained, and the changes in classroom practice have not gone as expected.

This chapter first discusses the challenges of developing awareness of the pedagogical aspects of AfL and then elaborates on national initiatives to introduce AfL in Norway. Following this, the chapter outlines a joint initiative by a regional educational authority, a university representative, and five schools aimed at changing assessment in the respective schools. The initiative had multiple aims. First, we sought to inform school leaders that AfL practice would not occur unless they promoted its pedagogical value and supported staff development in AfL. Second, we proposed that subject head teachers be supported in changing assessment practices through action research, which would hopefully, with the support of the school principals, initiate a process towards a broader aim of developing an AfL culture in their schools. The length of the project did not, however, enable follow-up studies examining the extent to which the broader aim was achieved. The chapter ends with recommendations on how to avoid top-down models of change by investing in multiple small-scale, long-term development projects.

## 11.2 Pedagogical Aspects of AfL

In Norway, as in many other countries, there is a strong political focus on AfL, evidenced by steering documents and national funding for teachers' learning of AfL. However, the national efforts do not appear to have achieved the intended effects (Hopfenbeck et al. 2013). That said, efforts to introduce AfL in schools

should not be attributed to political decisions only. This perception may lead to AfL being seen as superficial and as only a set of techniques that teachers are instructed to introduce into their teaching. The pedagogical aspects of AfL are more likely to explain why AfL has been embraced by educators internationally, as well as in Norway. For deeper and sustainable changes to occur, teachers must be convinced of the pedagogical benefits of the changes and that the changes will be best for their students (Timperley et al. 2007). Hattie and Timperley (2007) relate AfL to feedback, which provides answers to students about the following questions:

Where am I going? (What are the goals?), How am I doing? (What progress is being made toward the goal?), and Where to next? (What activities need to be undertaken to make better progress?). These questions correspond to notions of feed up, feed back, and feed forward. How effectively answers to these questions serve to reduce the gap is partly dependent on the level at which the feedback operates. These include the level of task performance, the level of process of understanding how to do a task, the regulatory or metacognitive process level, and/or the self or personal level (unrelated to the specifics of the task). (Hattie and Timperley 2007, p. 86)

AfL processes are primarily evident in the manner in which teachers provide feedback to the students and how students make use of the feedback given. Hattie and Timperley (2007) suggest that feedback and AfL should not examine learning outcomes solely as achievements measured by grades. Rather, to improve achievements, other aspects of learning must be strengthened, such as self-efficacy and self-regulated learning processes. Learning will not occur if students do not believe in their own competence to learn and handle the learning tasks with which they are challenged. Bandura (1977, 1986) has indicated that the motivational aspects of learning can be understood by referring to a person's individual system of beliefs about her or his capacity to learn. The learner's internal feedback and individual capacity beliefs engage in a dialogue with external feedback from significant others, most commonly teachers and peers (Nicol and Macfarlane-Dick 2006). Useful feedback cannot be a monologue transmitted from the teacher to the student; the student must be an active partner in the dialogue, which can also engage peers. The quality and type of feedback plays a central role in developing learners' self-efficacy. Practising assessment for learning means that teachers are mindful and competent in their feedback on student learning.

Hattie and Timperley (2007) have shown that feedback is especially effective if it is given at a regulative and metacognitive level. AfL is about learning how to learn and developing self-regulated learning with both short-term and long-term perspectives. Zimmerman (1990) claims that self-regulated learners have better academic achievement and that 'self-regulated learners select and use self-regulated learning processes to achieve desired academic outcomes on the basis of feedback about learning effectiveness and skill' (pp. 6–7). AfL includes the understanding that assessment activities become genuine learning activities (Smith, in press). Hayward (2015) favours dropping the preposition in 'assessment *for* learning' in order that assessment and learning be so tightly linked in the curriculum that assessment becomes learning. However, she draws attention to challenges related to

how assessment is perceived by all stakeholders in education, perceptions also observed in Norway.

### 11.3 Challenges in Implementing AfL

In the literature, there is sufficient documentation about the pedagogical value of AfL. I would argue that for successful and sustained implementation of AfL, teachers must be shown not only the techniques for implementation, but must also develop comprehensive understanding of how and why AfL can promote learning. Techniques for implementation have become a focal point in the rhetoric of policymakers and steering documents in Norway. Despite the explicit positive intentions of these declarations, there are many challenges to the process of AfL implementation in schools (Hopfenbeck et al. 2013, 2015). A major challenge is the increased testing regime practised at a national level which presents teachers with the dilemma of whether to teach to the test to ensure high test scores (Popham 2001) or support learners in developing sustainable learning strategies. In other words, teachers commonly must choose between short-term and long-term learning effects (Hayward 2015; Smith 2011).

A second challenge is the isolation some teachers feel when practicing AfL because it has not been integrated into their school's culture, and consequently, it is not equally valued amongst their colleagues and the school leadership. Commonly, there is little cooperation regarding AfL. Hopfenbeck, together with colleagues from Oxford University and the University of Bergen, carried out a study of the implementation of AfL in municipalities and schools that participated in an extensive AfL project initiated by the Norwegian government (Hopfenbeck et al. 2013). The Assessment for Learning programme was launched in 2010, and the involved schools worked closely with the Norwegian Directory of Education and Training (DET) over a period of 16 months. This AfL initiative was a continuation of a previous programme (Improved Assessment Practice). 'The overall goal was to improve formative assessment practices in the classroom by developing distinct criteria to clarify how to reach curriculum goals' (Hopfenbeck et al. 2013, p. 28). This programme resulted in teachers devoting time to develop goals and corresponding criteria for every subject at every age level, without considering how to strengthen student learning to achieve these goals. Due to the evaluation of the first programme, policymakers decided to systematically implement AfL at a national level in Norway, and four basic principles for assessment became the core pillars of the project.

Students learn better when they:

1. Understand what to learn and what is expected of them.
2. Obtain feedback that provides information on the quality of their work or performance.
3. Are provided advice on how to improve.

4. Are involved in their own learning process and in self-assessment. (Hopfenbeck et al. 2013, p. 28)

Hopfenbeck et al. (2013) examined the implementation of the Norwegian AfL programme and conducted individual and group interviews with school leaders, teachers, and researchers. A main finding was that trust among the stakeholders, school leaders, and teachers was the key to success. Success stories were based on self-reports of the experiences of the interviewed stakeholders. However, no significant differences in learner achievements were observed between participating and nonparticipating schools. The research team concluded that not all schools achieved the expected goals, which were to change teaching practice and student involvement in assessment. In interviews with Norwegian professors who have expertise in AfL, Hopfenbeck et al. (2013) found that many of these professors criticized AfL implementation in Norway for the following reasons:

1. The variation among schools had not been sufficiently considered. A one-size-fits-all model does not work.
2. The national initiatives were not built on what teachers and school leaders find most challenging but on what the government finds challenging.
3. Researchers appear to emphasise the complexity of AfL, whereas the national programme indicated that there is a 'right way' of practising AfL that can be prescribed to teachers.

In Norway, many schools collaborate with researchers from the university, and teachers and principals likely feel tension between the researchers' message and the simplified version of AfL presented by the DET. In the transition between rationale and implementation, AfL policy has been reduced to techniques and ideas presented on a national website and in handbooks for teachers.

From the researchers' perspective, the concern was that the implementation of AfL has been superficial with no real understanding. Instead of acknowledging the complexity of the field, the DET offered a teacher friendly programme which could be implemented step-by-step, like a recipe. Even if the members of the DET strongly emphasised that these practices could be developed in several ways, some school leaders and teachers have interpreted the website version of AfL as the "truth" about AfL. (Hopfenbeck et al. 2013, p. 61)

One conclusion of the research team was that 'it is evident that there are challenges in how to transform the complex knowledge researchers possess into knowledge that teachers can use in developing their assessment literacy' (Hopfenbeck et al. 2013, p. 62).

## 11.4 Cooperative Learning About AfL

The work of Hopfenbeck et al. (2013) indicates the importance of developing a culture of AfL which, within a given framework, is unique to each school. The principal, teachers, and learners must develop a shared language of AfL that enables

individual practices (Smith and Engelsen 2012). Developing a culture and shared language relates more to work-based learning and less to off-job learning. Creating communities of learning characterized by trust, openness, and critical reflection on one's own practice has been found to be supportive for introducing changes to the school's and individual teacher's assessment practices (Smith and Engelsen 2012). Work-based learning within a community of practice has been advocated by many researchers claiming that professional learning occurs best within a supportive sociocultural learning environment (Eraut 2004, 2014; McNamara et al. 2014; Wenger 1998).

'A culture is a powerful, latent, and often unconscious set of forces that determine both individual and collective behaviour, ways of perceiving, thought patterns, and values .... Cultural elements determine strategy, goals and modes of operating' (Schein 1999, p. 14). A culture of assessment in school means that school leadership, teachers, and students have a shared understanding of assessment, assessment purposes, and how to practise assessment. A culture of assessment does not suggest that all practices are the same but that all practices are supported by a shared set of attitudes and values, with the explicit goal to promote learning. It means that students, teachers, leadership, and school authorities have developed a shared language when discussing assessment. In other words, the actors have become assessment literate, which according to Stiggins (1995), can be defined as follows:

Assessment literates know the difference between sound and unsound assessment. They are not intimidated by the sometimes mysterious and always daunting technical world of assessment (p. 240).

The aim of professional learning about AfL in the project presented here was to provide teachers with an understanding of the pedagogy inherent to AfL and with skills in translating this understanding into practice. The professional learning of teachers in AfL has recently been the focus of several Norwegian researchers in response to messages from central authorities. Most studies have examined how teachers develop individual AfL literacy (Engelsen and Smith 2014; Rønsen and Smith 2013), with little focus on staff development. In contrast, Engelsen and Smith (2014) describe how a three-year project successfully supported a Norwegian elementary school in developing a sustained AfL culture.

## 11.5 An Intervention in Support of AfL

The remaining sections of this chapter present a Norwegian project that involved a representative from the regional educational authority, a representative from the university, and school principals from five schools. They planned an intervention project with four head teachers from each school aiming to develop a shared understanding of and competence in AfL. A further aim was to enable the head teachers to empower their teachers in AfL in their respective schools. A more

implicit but important aim was that all stakeholders should become assessment literate so that AfL would be supported at a system level. The key elements of the project were introducing participants to the research literature on AfL and involving them in school-based action research so respective school teams could contextualise professional learning in their own schools and teaching practices. The specific question that the empirical section of this chapter seeks to answer is how the various actors in the project perceived the intervention as a process of individual and collective empowerment.

### ***11.5.1 Context of the Study***

The project began with cooperation between the local authorities and the university in 2009. The first aim was to examine teachers' and students' perceptions of assessment and the extent to which these two central assessment stakeholders used the same assessment language. The findings of this study suggested a wide gap between teachers' and students' understanding of assessment and the manner in which they viewed assessment practices. Specifically, this study revealed a lack of AfL competence among teachers (Havnes et al. 2012). Acting upon these findings, a professional research and development project was started under the responsibility of the local authorities and the university. Our understanding was that to implement AfL in schools, teachers and all stakeholders must be empowered in AfL practice. The current chapter focuses on data collected from the second cohort; 20 participating head teachers from five different schools worked on AfL with their school teams between the monthly course meetings. Moreover, three of the principals from the five participating schools participated occasionally. The group met with an external expert (the researcher) and the head of education at the regional authority on 7 days (8 h per day) over the school year.

### ***11.5.2 Intervention***

The intervention course had three main components: (1) sharing of current assessment practices, questions, and challenges faced; (2) interactive lectures on the pedagogical rationale underpinning AfL; and (3) team reading and presentation of the research literature on AfL and its uses in their own practice. The practical professional development tool in the intervention was action research (McNiff 2013), and the 'reflective circle' (Schön 1983) framed the three components. The participants were required to clarify their own point of departure at the beginning of the course and then formulated questions and areas for further education development. They were also required to learn about AfL through lectures and reading of relevant literature. Each team developed an action research (AR) plan that carefully documented AfL implementation. The concept of an action research project was

introduced to the participants at the very first meeting, and throughout the course, they could relate the content of the seminars to the various stages of the AR project. In the second meeting, they were asked to present the action research focus (question), and each team received suggestions for relevant research literature. In the third meeting, they presented the literature to the other participants and discussed how it related to their own project. Then they presented various stages of the project for feedback from the course leader (university professor) and their fellow participants. Upon completion of the course, all projects were presented at a two-day seminar for representatives from the regional school authorities, principals from all of the schools, and participants from the first cohort. The projects were also presented to all teachers in the respective schools.

Previous experiences with similar professional learning models combining top-down aspects (requirement to engage in action research, reading the relevant literature suggested by the external expert, and lectures on AfL) and bottom-up approaches (participants selecting themes for their own focus of development, sharing experiences, and presenting relevant literature) have been found to have translational effects for assessment practice (Engelsen and Smith 2014; Smith 2011). Whereas previous projects concerned professional development activities with the whole staff in small schools, the current project strongly focused on action research as a professional development tool. A more formal presentation of the action research (AR) project was required because the head teachers would be mentoring other teachers in larger secondary schools. Documentation and articulation of their own professional development in relation to AfL was therefore viewed as important.

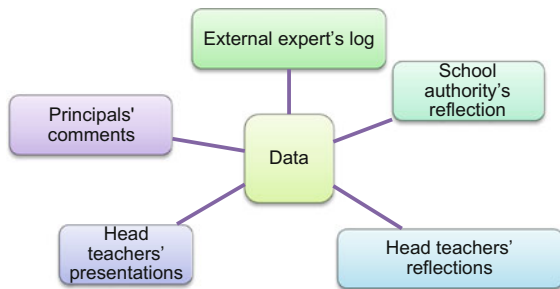
### ***11.5.3 Methodology***

To learn about the perspectives of the different actors, several qualitative data collection instruments were used, as presented in Fig. 11.1.

The expert wrote a reflective log after each session in which she recorded her impressions of the didactic aspects of the seminar, interactions with the group, her own feelings, questions, and doubts, and attempted to hypothesize how the participants felt. The representative from the regional authority who had been active in all seminars wrote a reflective note at the end of the project, focusing on her learning and to a larger extent how she felt the school teams were progressing throughout the project. The head teachers wrote continuous reflections, especially about their own learning processes, work by their team, and their worries in relation to AfL implementation. The challenges of conducting action research for the first time became a central theme. The final action research projects documented the outcome of the learning processes of the head teachers and how they planned to implement AfL in their own context. The participating principals wrote a few comments at the end of the course.



**Fig. 11.1** Data collection instruments



The analysis of the data as presented here is the subjective interpretation by the external expert; however, the content was presented to all participants as a PowerPoint presentation inviting comments. The discussion that followed the presentation suggested minor changes to the interpretations, one of which was related to the importance of reading and presenting the literature on AfL to each other. Moreover, the first full version of the chapter was approved by all participants.

### 11.5.4 Findings

The main findings are presented in relation to the various stakeholders and the processes they underwent.

The head teachers initially felt strongly the tension between directives, theoretical input, and external exams, which resulted in more general pressure for secondary school teachers.

It seems as if we teachers are pulled in three directions, and sometimes I feel as if I am the server of three masters who do not talk to each other, the final exams at the end of the year, all the documentation I have to do to avoid getting sued by students or parents, and all the pedagogy of how to support each and every student.

However, towards the end of the course, a more positive and future-oriented tone could be observed in reflective notes:

To understand my own practice and change it based on theoretical knowledge was new to me.

Previously, self-assessment was added at the end and after my assessment. Now, the students assess their own and their friends' processes and work in progress.

The head teachers moved from being critical of AfL and defensive of their own practice toward a more open-minded and positive attitude regarding the changes they had made.

In her log, the external expert mirrored the head teachers' changed attitudes. After the first session in September, she wrote: 'Same once more, a nice group, they know little about AfL and AR. They are very defensive of own practice.' In

November, however, the log had a more optimistic tone, as the school teams had worked with the literature and presented their understandings to the group. The external expert observed a change in the head teachers' attitude toward AfL and beginning understandings of the underlying pedagogical principles: 'Good discussions of articles, beginning of change of attitude. I wonder what their AR projects will be about....'

After the Christmas break in February, the teams had started to work on their AR projects, and the external expert became aware that the scope of the projects was too wide and that the teams would be unable to make all of the desired changes, especially when goals involved creating deep and sustainable changes: 'They want to change everything. I need to get them to focus their projects. They need to learn how to work with AR as a tool for development and change, which they can continue to use at the end of the course.'

Finally, when the presentation seminar occurred in June, the outcome of the participants' learning was presented to a wide and important audience. The external expert wrote: 'I feel like a proud teacher at graduation. The projects are good; they have really found their own interpretations of AfL in their own school context. I am truly pleased.'

The representative from the school authority, an experienced teacher, had been following the first cohort and was well acquainted with AfL from steering documents and her own prior experience as a teacher. She wrote her reflections at the end of the course, acknowledging the process the head teachers had undergone. She felt that the head teachers first focused on student learning separate from assessment before developing an awareness of the teacher's role. Teachers realised that the aim of AfL was not to document all assessment practices to guard against being sued by parents and students. Instead, AfL was about adapting assessment to the class context and to discussions in meetings with individual students. At the end of the course, she observed that the head teachers made clear links between teaching and assessment and did not see these activities as separate and incompatible. Regarding her own learning in the project, she wrote:

It is important to mention the professional learning I have gained throughout the project period. I have learned about theoretical aspects of assessment and received a better understanding for the teachers' challenges in the classroom. The fact that some of the head teachers took the time to write a final paper provided a fascinating insight into the head teachers' learning process in the project.<sup>1</sup>

The school principals were asked to comment on the course at the end of the final seminar, and the following comment presents a shared opinion among the school leaders: 'As a principal and teacher, I have a new understanding of assessment. The school will continue to work on AfL and dedicate discussion and development time for all teachers to be involved.'

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<sup>1</sup>The presentation of the project was compulsory, and writing a final paper was voluntary.

A declared intention to develop an AfL culture in school appears to be in place but does not necessarily guarantee that there will be follow up. The current study does not inform about the project's sustainability.

The most promising findings can be found in the action research presentations of the head teachers. The topics that they decided to work on with their teams varied, as the following examples indicate:

1. Feedback in physical education (*school specialising in sport*)
2. Implementation of Black and Wiliams's (2009) five principles for AfL:
  - (a) Develop goals and criteria for success with students
  - (b) Create activities that represent students' understanding
  - (c) Provide clear and useful feedback/feed forward
  - (d) Create situations in which students support each other
  - (e) Enable students to create ownership of their own learning  
(*civic studies teacher team*)
3. Peer and self-assessment in language teaching to promote students' self-confidence, motivation, and reflection (*team of language teachers*)
4. How to develop a shared understanding of grades concerning order and conduct?<sup>2</sup> (*interdisciplinary team*)
5. Assessing the learning of mathematics using less tests (*math teachers*).

The projects reflected the concern of the participants within their own teaching context and presented documentation of changed assessment practices supported by theory, as well as ideas of how to make future changes. The great variety in the topics created mutual learning at the school level, as head teachers developed practical ideas for change processes. Further, AfL practices in multiple school subjects were presented and made available to all schools in the region through postings on the internal website for all regional secondary schools.

## 11.6 Discussion

In this discussion, some key issues from the findings will be addressed to serve as a framework for developing an AfL culture in schools and provide teachers with ownership of changes. In other words, this discussion will be directed towards suggestions for empowering teachers to becoming independent and confident practitioners of AfL.

Many educators, such as the secondary school head teachers and principals in this study, work within an educational system under accountability pressure and a widely developed testing regime (Darling-Hammond and Snyder 2015; Hayward

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<sup>2</sup>In Norway, students are given a grade in 'order and conduct,' reflecting the students' punctuality, behaviour, bringing necessary equipment to lessons, doing homework, etc.

2015). In some contexts, such as Norway, AfL is high on the educational political agenda, and extensive rhetoric addresses the importance of AfL as a method to improve students' test scores (Engelsen and Smith 2014; Hopfenbeck et al. 2015). Less attention is given to the pedagogies that underpin AfL because AfL is considered as a golden key to achieve learning outcomes that are compatible with expectations at the national and international levels (Smith, in press). However, the core of AfL is the communication between the teacher and learner about the progress of learning related to a specific task, specific subject, or school. This pedagogical focus of AfL has not been given sufficient attention in teachers' professional development activities. Teachers are the ones who care for the individual learner and how he or she progresses. The secondary school head teachers in this study felt caught between concern for the individual student and the need to ensure that external demands, such as high achievement scores, are met. The decisions that teachers make are formed by the context, situation, class, and individual student. They must find a balance between external demands and pedagogical considerations. When the external pressure is too high, teachers are more likely to 'teach to the test,' which might lead to better exam scores in the short term but not necessarily to more meaningful learning. The ongoing struggle to balance meaningful learning and accountability pressures is not new and deserves more attention from the research community, policymakers, and practitioners. The findings in this study reveal the tension that secondary school head teachers especially must contend with. What supported the head teachers in developing an individual understanding of how to practise AfL and promote it to their own teacher teams was the emerging theoretical understanding of how AfL impacts student motivation and self-regulation, and their trust in their own competence to learn. The head teachers were familiar with techniques and regulations issued by the Ministry regarding how to practise AfL, but they had little or no understanding of the pedagogical basis for the imposed changes. By reading the suggested literature, head teachers became able to link AfL to personal pedagogical values.

Another central issue regarding our findings is that teachers are used to being told what to do, such as how to implement AfL. We know less about how they learn about AfL and how they develop assessment literacy (Engelsen and Smith 2010; Hayward 2015; Rønsen and Smith 2013; Smith 2011). Ample research has indicated that top-down approaches do not work well; a good balance between bottom-up processes (empowerment) and the parameters of a given framework (top-down guidance) appears to be a more effective approach (Engelsen and Smith 2010, 2014).

This one-year project was too short to develop sustainable changes; longer projects that implement continuous support during change processes are more likely to ensure sustainability (Engelsen and Smith 2014; Timperley et al. 2007). The development stages that head teachers in the current study underwent during the course resonate with the phases Rønsen (2015) detected in her doctoral work, which she called 'the preparatory phase,' 'the theorizing phase,' and 'the explorative phase.' At the end of the preparatory phase, teachers in Rønsen's study were able to see their own practice through reflective discussions within a community of

learning, which included other teachers and external experts. The teachers went from being defensive of their own practice to being able to reflect on their own practice with a critical perspective. In the second phase, the theorizing phase, teachers developed a shared language of assessment by reading the relevant research literature and thus became able to articulate and discuss their practices using the assessment language. This phase helped teachers develop a meta-perspective on their own teaching. In the final ‘explorative’ phase (after nearly three years), teachers developed an individual practice theory which enabled independent AfL practice, and they were able to support their actions with theory (Rønsen 2015).

Two primary conclusions can be drawn from the current small study and the more in-depth study of Rønsen. First, the starting point for change should be the teachers’ current assessment activities. They must critically reflect on their own practice to develop an understanding of how assessment impacts student learning. The process of self-examination is facilitated by collegial discussions within safe communities of learning. Second, the support of external expertise in the form of discussions based on the relevant research literature strengthens the teachers’ learning processes in developing a personal practice theory of assessment, which allows them to become assessment literate (Engelsen and Smith 2014).

However, changes throughout an entire school will not develop unless the assessment culture in the school is changed. To do so, not only teachers but also the leadership of the school should be involved (Hill 2011; Leithwood et al. 2004; Printy 2008; Smith and Engelsen 2012). In the study reported in this chapter, the school leadership was invited to join the project from the beginning. The five principals were involved in planning the intervention. Some principals participated in the intervention, whereas others only attended the final seminar for project presentations. Those who participated in most meetings developed a shared language with their head teachers when discussing assessment, and more collective learning about AfL occurred in these schools, which will likely impact future AfL developments in the schools. The involved head teachers were part of the pedagogical and didactical school leadership and in the position to initiate change processes in their respective schools. The data were collected during and at the end of the project period (intervention), and no follow-up data have been collected. Thus, we do not know if the intentions expressed by the leadership were put into practice, a process which will require time, resources, and a strong environment of trust in order to enable a variety of practices and tests of new ideas. As Engelsen and Smith’s work in another project has shown (Engelsen and Smith 2010, 2014; Smith and Engelsen 2012), the principal was clearly the driving force for creating a sustainable AfL culture in the school.

The final point to be highlighted in this discussion is the use of action research as a professional development tool. Previous research has documented successful use of action research as a tool to strengthen teachers’ professional learning, the main advantage being the ownership that practitioners develop in association with their own learning (Kane and Chimwayange 2014; McNiff 2013; Smith and Sela 2005). However, it cannot be expected that teachers will engage in action research projects

unless they are given time and resources, as well as careful and patient guidance from experienced researchers. Ponte et al. (2004) argue that talking to practitioners about action research and how it is conducted does not help and confuses individuals unfamiliar with research, particularly practitioner research. Practitioners obtain the sense of action research and become aware of its meaningfulness only when they start working on their own projects.

Action research involves understanding one's own practice, learning about the specific issues, testing alternatives through systematic documentation, which is analysed, and interpreting results and conclusions. The manner in which action research was used in the current study reflected the well-known cycle or spiral of experiential learning (Kolb 1984), as well as Korthagen's (1985) ALACT model. The basic idea is that through systematic critical analysis of current assessment practice, head teachers seek new alternatives, which are based on new knowledge acquired through collective learning about AfL (see the description of the intervention above). In the current project, action research was conducted in teams, not by individual teachers. Team projects, which enable teachers to share the workload and provide time and space for discussions, exchanges of experiences, and sharing of responsibilities, are less frightening to teachers than individual projects. Change processes become a joint venture and not an individual process without opportunities for peer dialogue, and there is a constant flow of ideas within the research groups. The voice of the teacher presented at the very beginning of the chapter supports this argument.

## 11.7 Recommendations

In this project, no golden key was discovered for developing teachers' AfL competence. However, this project provided evidence of head teachers developing their own personal, team, and school practice theories of AfL. For example, in one school, teachers were unhappy with the formal grades given to students for order and conduct; the grades were primarily based on the number of reprimands documented, and each individual teacher generally decided what should be documented. The four head teachers from this school decided to work together and conduct action research on this important cross-disciplinary issue. These head teachers involved all teachers in the school and the students in developing a school code of conduct. The conduct and order grades thus became transparent and closely linked to the school's code of conduct. Another example in which the intervention and action research changed assessment practice could be seen in how the head teacher of mathematics in one school, together with her team of teachers, developed and tested supplementary assessment tools. They introduced math portfolios with student-selected entries, and they invited students to write test items and be involved in correcting their peers' and their own tests. They introduced group testing in mathematics. These were huge changes for a generally traditional group of math teachers who were empowered by the goal of developing AfL.

The intervention project, in all successive cohorts, found that detailed top-down directives indicating how to practise AfL do not help teachers. All actors involved with school changes for improvement need to become assessment literate; thus school leaders, teachers, and school authorities must be involved in the same learning processes to develop a shared understanding of what creating an AfL culture means. The changes presented in the examples above could not have occurred if the regional authority had not invested money in the project and followed it closely in order to accept and understand the changes that occurred in the schools they controlled. Moreover, the school leadership, represented by the principal and head teachers, invested in their own learning of AfL and therefore could contextualise the changes in their own school. They were empowered to act as brokers of AfL within their respective schools. The responsibility for change was not left to individual teachers. The various actors were empowered in practicing AfL, which requires a shared language, individual and collective competence, autonomy, and responsibility. Control and uniform detailed directions from policymakers have not proven to be successful in AfL implementation in Norwegian classrooms. The general principles of the intervention presented here could serve as an example of how cooperation between various stakeholders in education can lead to changes within a given framework. However, AfL implementation requires openness to the specificity of schools, subjects, and teachers; in other words, one size does not fit all.

These results must be interpreted cautiously; no generalization of this small and limited study can be made, and a direct transfer of the model to other contexts should be avoided. Each context is unique. However, when changes are imposed on teachers in a top-down manner, they likely produce only cosmetic results. Teachers will accept deeper changes only if they address their main concern: namely, to support student learning (Day et al. 2005). Thus, models of change that seek to develop not only a shared understanding of the change but also an ownership of the changes (bottom up) and autonomy to adapt changes to suit personal practices (Timperley et al. 2007) are more likely to be effective. Our findings indicate the importance of developing a theoretical and pedagogical understanding of AfL rather than focusing only on its practical and technical aspects. The theoretical and research literature, which underpins the more practical aspects of AfL, needs to be shared with practitioners by engaging them in cooperative learning; this means involving them in reading, presenting, and discussing the literature in practice-based communities.

Finally, a main recommendation from this chapter is for policymakers and leaders of education to invest in multiple small-scale, long-term projects instead of multiple large-scale, short-term activities. The latter remains unfortunately the most common form of implementation of educational change.

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