Assistant Professor Maja Henriette Jensvoll *Faculty of Education and Arts, Nord University, Bodø, Norway.*

Professor Trond Lekang *Faculty of Education and Arts, Nord University, Bodø, Norway.*

Maja Henriette Jensvoll

Assistant Professor of English

NORD University

8049 Bodø, NORWAY

maja.h.jensvoll@nord.no

Trond Lekang is, in his research particularly interested in tutoring and school development within the Norwegian national school development project for lower secondary education. In addition, he has worked within action research and the relationship between pedagogy and technology within schools as well as within teacher education.

Maja Henriette Jensvoll's research interests concerns the teaching, and development of basic skills in reading, literacy and numeracy as well as school development and organizational learning. She has also been engaged in development work concerning foreign language didactics and educational policies.

Strengthening professionalism through cooperative learning

Abstract

This article focuses on the processes that come into play as part of a school development project and how these processes contribute to strengthening teacher professionalism. Through processes of consciousness raising and the development of learning cultures where tacit knowledge becomes explicit and shared, and new practices are tested out and discussed, teacher professionalism is developed further. The study shows that this kind of school development work gives the teachers ownership of the development process and strengthens their consciousness about their own teaching as well as develops the learning cultures at the school. Thus, this development becomes an important way in which to reinforce the teachers' professional knowledge, responsibility and autonomy.

Key words

School development, cooperative learning, learning cultures, communities of practice, tacit knowledge, professional teacher, professional knowledge, responsibility and autonomy.

Introduction

"If you have an apple and I have an apple and we exchange these apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas." (Unknown).

The starting point for this research is the government initiated project in Norway known as Ungdomstrinn i Utvikling (UiU) which means "Lower secondary schools in development". In this project, all lower secondary schools in Norway are invited to take part and receive 1 ½ years of tutoring from teacher educators aiding their school development projects. The goal of these projects is to develop the schools as learning organizations with professional teachers who are able to utilize new research based knowledge about teaching and student learning. Also, the aim has been to make teaching more practical, varied, relevant and motivating for the students. The schools are supposed to develop their teaching focusing on class management and the so-called basic skills: reading, writing and numeracy, which are defined in the Norwegian national curriculum (LK06) and based on the DeSeCo Key Competences (2005). Thus, this national project is thought to be a means to an end in an era of government-imposed accountability, where developing teacher competences is seen as a way to reach the aim of increased student outcomes (Mausethagen, 2013). When taking part in this project, schools are offered support and tutoring from external resources at the University, helping teachers and school leaders in their development processes in the school, identifying individual as well as shared development needs. The theoretical foundation for this project is found in social learning theories, where learning is seen as taking part in communities of practice where shared reflections among colleagues are part of this community (Lave & Wenger, 1991, Newman et al., 1996, Bolam et al, 2005).

The schools work towards becoming learning communities where teachers share their knowledge and develop their teaching practices together. Teacher educators involved in the project help facilitate this development of new practices through introducing recent pedagogical research, methods for school development and for lesson planning and thinking about student learning.

The teacher-educators tutor teachers and school leaders, helping them identify individual as well as shared development needs in their school. This article, by focusing on the acquisition of knowledge and the organizational development in specific schools, shows examples of how such a development project for systematic quality improvement of praxis may be implemented.

For the three schools included in this study, the focus of their development projects has been on lesson planning using "Backward by Design" (Wiggins & McTighe, 2005), colleague-to-colleague peer observations and prepared meetings for sharing practices and ideas about teaching (Collinson, 2006), thus creating communities of practice (Wenger, 1998). Such activities help teachers to articulate and share their tacit knowledge about teaching (Polanyi, 1967), and to use this knowledge to reflect on current practices and together develop these practices further. These interventions may challenge the autonomous tradition among teachers, and require them to take collective responsibility for the learning of their students (Mausethagen, 2015).

With reference to these project areas, the central questions for this research has been how a school development project may develop the teachers' consciousness about their tacit knowledge and their own practices, and how these processes interconnect with the development of sustainable learning cultures and serve to strengthen the professional teacher.

Theories

The school development projects' aim has been to develop schools into becoming stronger communities of practice. According to Wenger (1998), *communities of practice* are human resources and competences that through motivation, creativity and problem solving create value in the work place. Such learning cultures may be described by comparing strong and weak cooperative cultures. Weak cooperative cultures exchange information, help,

support and ideas whereas strong cooperative cultures nurture commitment to common planning, implementation and evaluation of teaching. In these cultures, teachers may learn from each other and develop their competences collectively. Based on these experiences, meaning and identity are created, where individual and collective identities are part of a complex interaction. Individual and collective learning has to occur in reciprocal learning processes and specific learning communities. Thus, a common repertoire should develop among the colleagues, a repertoire that expresses established knowledge and that functions as a foundation for further engagement with praxis (Wenger, 1998).

Fullan (2010) emphasizes the importance of building a robust school organization that promotes student learning and development. Thus, the collective learning processes will contribute to the learning of the schools and the teachers through active and supportive development partners, a sharing culture, and systematic thinking about quality and improvement. A cooperative culture also entails commitment to cooperation where teachers plan, implement and evaluate teaching together. The teachers will then be able to identify best practice together, and bring good examples forward.

When teachers start sharing their practices, their tacit knowledge about teaching may become explicit. Polanyi (1967) describes how there is hidden and tacit knowledge, which is difficult to put into words. The sharing of experiences and reflections around teaching situations may help this tacit knowledge to become explicit. According to Polanyi (1967: 4) we should start from the fact that *'we can know more than we can tell'*. This pre-logical phase of knowing is what is described as 'tacit knowledge'. Hargraves (1999) explains that "much professional knowledge is tacit, that is, in the form of practical know-how that is not easily articulated". The articulation and sharing of this tacit knowledge "is most easily conducted in a collaborative school culture that encourages frequent and high levels of professional talk and sharing among teachers" (Hargraves, 1999:124)-. All organizations have knowledge that

becomes visible only when employees are involved in praxis related actions (Polanyi, 1967, Hargraves, 1999). Teachers frequently express the need to learn how tacit knowledge may become explicit and shared, so that the processing feedback from colleagues is not left to chance (Løver & Postholm, 2016). According to Postholm (2013), awareness of the knowledge already existing in schools may be accentuated through processes where content and process are complementary elements in a school-based development project. Awareness of knowledge already existing in the school may make it possible to develop common understanding and a starting point for further development.

Mausethagen (2015) defines the professional teacher along three dimensions: their professional responsibility, their professional knowledge and their professional autonomy. The regulations and demands instructing teachers' work define their *professional responsibility,* and refer to documents like the national curriculum known as Knowledge Promotion (The Norwegian Directorate for Education and Training, 2006), the laws that regulate schools in Norway (Education Act, 1998/2013), as well as the regulation of student assessment (Regulations concerning the Education Act, 2009). The motivation for introducing the current national curriculum was the fact that Norwegian students showed poorer test results than comparable countries on international tests. The reform was meant to change this by introducing clearer competence goals, and by using different measurements to test student performance (Ministry of Education and Research, 2005).

The teachers' *professional knowledge* refers to subject knowledge as well as pedagogical competence and research based knowledge about teaching. *Professional autonomy* relates to the freedom teachers have to design their own teaching. Teachers may find that the focus on developing communities of practice may challenge their feelings of professional autonomy. According to Mausethagen (2015), the teachers' autonomous

motivation is explained through teachers' need for contentment combined with space to shape their job within set regulations and demands from the school.

Tomlinson et al. (2010) explains teachers' professional acquisition of knowledge as implicit and rarely expressed, unless they are challenged to make it explicit. When teachers are they able to connect their thinking to concrete situations, this situates their knowledge and connects it to their own practice, thus creating a foundation for change and development in schools. It is important to make room for development of "responsible autonomy", because teachers need time and space to develop their own style within the given framework. According to Hobson et al. (2009), professional knowledge acquisition may lead to professional learning when teachers have the opportunity to try out new lesson schemes in their own classrooms and evaluate their own experiences based on this.

Nonaka & Takeuchi (1995) describe the tension between autonomy and intention. Teachers have a strong collective will and at the same time freedom to make use of individual ways of working to reach their goals. The autonomy of the individual within an organization may be challenged when leaders seek to establish communities of practice where teachers are questioned about their pedagogical choices. The concepts of externalization and socialization includes the sharing of tacit knowledge within a sociocultural context. This is essential within communities of practice where tacit knowledge may become explicit. When knowledge is made concrete and is communicated, it may be utilized by others in the organization as well through combination and internalization. Such professional learning communities may be interpreted as referring to groups of teachers supported by their leaders (Stoll & Louis, 2014). Here, pedagogical knowledge is developed through cooperation between teachers and leaders in a learning environment.

One of the methods the teachers tested out together as part of the development project was the structured lesson planning called "Backward by design" as described by Wiggins and

McTighe (2005). They claim that teachers must plan and design their teaching based on both formative and summative evaluation goals. The starting point has to be solid insight into what knowledge, skills and understanding students should have at the end of teaching. When students are supposed to develop understanding, it is right to "teach to the test". This underlines the difference between thinking like an activity designer and thinking like an evaluator, and ties in with the evaluation reform in Norwegian schools inspired by the principles for Evaluation for Learning (Black & Wiliam, 1998). James & McCormick (2009) claim that teacher autonomy is preserved by the teachers themselves as they discuss the importance of learning amongst their peers.

The teachers' consciousness about their own development has to be based on classroom activities. It is important for the success of such development projects that the teachers see it as part of their professional development, as a challenge and an obligation that all knowledge workers have, to expand their own knowledge of their field through exploring, and to debate, test out and adapt new theories and methods to their own professional practices. Postholm (2013) claims that cooperation and sharing of experiences may contribute to colleagues getting to know each other better and feel more comfortable in each other's company, and that this cooperation may lead to even more informal cooperation between them. A recent study in Norwegian schools shows that teachers, through such project periods acquire a new set of concepts and vocabulary in relation to the focus areas. The teachers develop their professional vocabulary to describe praxis in meetings and discussions (Lekang & Edvardsen, 2017). After working with the UiU project, teachers also report increased awareness about their own classroom practices, through working with lesson planning in light of the competence goals of the national curriculum, and working with the teaching of basic skills across school subjects (Jensvoll & Lekang, 2017).

Methods and analyzes

This research project can be defined as phenomenological because it aims to grasp the essence of experiences related to the theme in focus (Moustakas, 1994). The data for this study has been collected through partly structured focus group interviews and written evaluations from the teachers at the end of the project period. Three focus group interviews were conducted, one at each school. The teachers volunteered to take part in the interviews based on a request from the researchers through the school management. At two of the interviews, there were three teachers and in the third interview, there were two. Their teaching experience varied from less than five years to more than 20 years. According to Vaughn, Shumm and Sinagub (1996) "[t]he major assumption of focus groups is that with a permissive atmosphere that fosters a range of opinions, a more complete and revealing understanding of the issue will be obtained". Such interviews create "a candid, normal conversation that addresses, in depth, the selected topic". Morgan (1997) describes focus group interviews as a combination between group processes and researcher-led topic focus. Within this process, empirical data is produced as the informants interact with each other. The method was chosen to reach the eight teachers from three representative schools that had participated in the project. The schools were chosen because they had shown an interesting development throughout the project period.

The written evaluations were collected form a fourth school, and here the teachers were asked to write about what they had learned and accomplished throughout the project period. This school was a lower secondary school (grades 8 to 10). The three other schools were all comprehensive schools with grades 1-10, but the teachers that were interviewed were all teaching at the lower secondary level. The reason for collecting data through both evaluations and interviews is to investigate whether the informants' own development and the schools' development have contributed to reaching the project's goals. The evaluation was

not done as an effect study, but rather as tracing possible developments at the schools and seeking insights. The different sources of data may provide method triangulation enabling the researchers to establish an image of how the situation was perceived at the end of the project period, and thus contribute to the quality of research inquiry (Silverman, 1993).

The interviews were conducted and transcribed in Norwegian and then subsequently translated verbatim by a qualified translator for authenticity of the translations to be guaranteed. The analysis was carried out using both descriptive and interpretative perspectives. The analysis is also inspired by Giorgi's (2009) phenomenological five phases of reduction of meaning. This means that the researchers extract the core meanings from the collected data. Based on the categories that present themselves, units of meaning were listed in a shared document. Then the researchers were able to identify common tendencies and decide on which categories to apply. Hence, the synthesis of each category was extracted to clarify its meaning:

1. The entire interview is read through to give the researchers a complete impression.
2. Natural units of meaning are decided on by the researchers.
3. Dominating themes from the natural categories are simplified and displayed as clearly as possible.
4. The units of meaning are investigated in relation to the goal of the study.
5. Last, important topics from the interview are put together to make a descriptive claim.

The presentation of the findings show examples of how the teachers have developed their tacit knowledge and how that has led to consciousness raising in relation to their own teaching practices within a learning culture, strengthening the teachers' professional knowledge, responsibility and autonomy. Based on the analysis described the two main findings regard the development of *Consciousness Raising* and *Learning Cultures*.

Findings: Consciousness raising

The first category that presented itself in the data was the teachers' own processes of consciousness raising. Some of the teacher stated that "We ask each other because we know best what works and what doesn't work" and it could almost seem as if they hinted that they did not need anyone from teacher education to meddle with their practices At the same time, they seem to have experienced that parts of their own tacit knowledge became more explicit for them in the process of observing each others' teaching, saying things like: "My colleague could see things that worked well in my teaching which I myself had been uncertain about". Discovering their own practices and starting to discuss them with one another seems to strengthen their professional autonomy as their practices are validated by their colleagues. They become more conscious about their own teaching, and how their teaching may affect their students.

The teachers in this study find seem to be of the opinion that colleague observations have enhanced their engagement in development work, improved cooperation between the teachers, and made them more competent in evaluating and reflecting on what happens in their classrooms. One of the teachers said that:

> Because we have observed concrete methods in the classroom, a new professional talk has developed among teachers across grade levels, and we see closer cooperation and an exchange of ideas about how methods can be used. I am left with a better understanding of the methods and better cooperation with my colleagues. Colleague observations and tutoring is not something I have considered initiating myself, but now that we have been through several rounds of observations, I believe I have become more skilled in evaluating writing situations when I am co-teaching.

Teachers in the schools that have established routines for colleague observations experience the development of a common language based on their common experiences. The meeting

places for sharing experiences have been initiated by the school management, and this arena

for sharing knowledge and experience has resulted in teachers connecting happenings and

situations in the classroom to pedagogical concepts and theories. One of the teachers

described how colleague observations have influenced her own teaching practices:

> Colleague observations have influenced my development towards a consciousness
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> raising regarding my own as well as other teachers' pedagogical practices. For
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> example, in thinking through why I make certain choices as I plan a lesson. As a
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> teacher, you have to think about how you give feedback to a fellow teacher. In
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> addition, it has been a very positive experience being able to discuss lesson schemes
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> with colleagues, who teach the same subject. We get lots of good ideas from each
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> other and develop our cooperation across grade levels.

Thus, through consciousness raising regarding their own and other teachers' practices, these

teachers seem better able to deal with challenges that influence their own practice. Prioritizing

time to strengthening the role of the teacher through discussions and feedback from other

teachers teaching the same subjects, appears to have strengthened their professional

knowledge and their cooperation. The teachers find that there is a potential for self-

improvement when colleagues take part in their classes, and take time to discuss pedagogical

and methodological aspects of the lesson and of the students' learning afterwards.

The teachers claim that the colleague observations have caused increased awareness of

their own practices – this concerns what teachers know, but may not be completely aware of

in relation to their own practices. They said that "Things you don't think too much about may

have great effects on your students", which may indicate that they become more conscious

and confident that their own practices are valid and work well.

At the same time the work with lesson planning according to the principles of

Backwards by Design have opened up for discussions on the reasoning behind pedagogical

practices, evaluations, feedback and feed forward to students. This work required that the teachers cooperated creating lessons according to these principles. This also included trying out new methods and approaches to teaching. The teachers experienced that: "We cannot just use a method, we have to develop it further." Such remarks may be interpreted as evidence of consciousness raising among the teachers, which may support the development of their professional knowledge and autonomy.

Findings: Learning Cultures

The process of consciousness raising is not an activity that happens in isolation. It is set in motion when teachers work together creating lessons and discussing, not just an activity, but the whole process form learning goals, to what could be valid evaluation practices, to helpful learning activities, like the teachers did working with both Backward by Design and through colleague observations. After having tried working together in this fashion, the teachers' experiences are that "When we finally sat down and did it, the results were great. You actually have to *do* it!" They also claim that they "need to spend more time on targeted cooperation. A set time and clear demands on what we are supposed to do - then we get it done!" The teachers see the value of creating and sustaining a real community of practice, and, that such a community does not create itself without the help of some structures and demands from their leaders.

The results do indicate that teachers value working in a community of practice. They also seem to appreciate that the school management seeks to facilitate good discussions among the colleagues, emphasizing that developing a learning culture at the school, setting common goals, involving everyone in the project, and focusing on student learning, and this is seen as very positive and valuable for their work. As an example, one teacher claimed that

such a positive learning culture benefits from securing everyone the opportunity to express opinions:

My experience has been that the discussions have been constructive and interesting. Everyone have had the opportunity to express their opinions and ideas around UiU, how the different assignments[1] should be carries out, how they were carried out and what they have gained form that. We have had good conversations, we have gotten to know each other better and have developed a common understanding of the goals we have for our teaching in our subject.

Improving teacher cooperation is not something that happens by itself. It seems important that the school management provides a structure, and initiates these processes. The teachers seem to find that systematic school development, which facilitates collegial learning in a community of practice, is both valuable and useful, as one teacher explained:

Many of the teachers have tried out good lessons based on ideas they have picked up from other teachers, and many have «had to» try out methods that they would otherwise not have used. I also think that we as colleagues have become a closer team and have gotten to know each other across grade levels. In addition, the students have gotten to know teachers from other grades, when they come to the class for the observation. We get teachers that know more students and we are getting closer to thinking of "our" students, not "yours" and "mine".

What this teacher says exemplifies the development of the learning culture and the community of practice at the school. New and innovative working methods have been tested out, and the teachers now find it easier to reflect and evaluate their work together. According to their own statements, they cooperate better, and that does not only influence the teachers,

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[1] Testing teaching methods, lesson planning and colleague observations

but their students, who also gain from this when teachers take part in each other's classes and work together to improve their teaching.

Teachers in this study seem to be torn between good intentions and collective expectations on the one hand and their own independent teaching – their professional autonomy – on the other. At the same time, they find that being challenged like this is a good thing, and they say things like: "Challenge us: we need to stay sharp!" However, some teachers tend to be skeptical about sharing their experiences with other teachers, and it may take some convincing to get them going. It is therefore very encouraging to see that the teachers conclude saying that "It's a good thing that we *have to* share".

Conclusions and Implications

The central question for this research has contributed to finding answers to how this development project, UiU, has developed the teachers' consciousness about their tacit knowledge and their own practices, and how these processes interconnect with the development of sustainable learning cultures and the development processes that strengthen teacher professionalism. The data in this study illustrates how the teachers have worked and developed knowledge. The data suggests that their project work served to enhance their consciousness about their own praxis, but also their learning cultures, their knowledge, responsibility and their autonomy.

This study indicates that a great deal of knowledge in the school often remains tacit or implicit, unless time and opportunity is allotted to cooperation, sharing and discussing pedagogical practices. Hobson et al. (2009) claims that teachers must be challenged, connecting their thinking about praxis to concrete situations in the classroom. The analysis suggests that teachers value practical knowledge and experience claiming that they know best what works in their classes, and that they ask each other for help – but at the same time, they did not have any tradition for more structured sharing or discussing knowledge and theories

about teaching. Thus, unless the management initiates and facilitates this kind of cooperation these teachers may miss out on important discussions that allow for going into reasoning around pedagogical choices.

According to Postholm (2013), it is important to nurture the development of consciousness about knowledge development in school based development projects. Some of the schools seem to show that through UiU, they have been able to make tacit knowledge in their school explicit through shared reflections both before and after lessons (Polanyi, 1967; Hargraves, 1999). During the UiU project, the teachers have been challenged in meetings initiated by the school management, and these teachers clearly express that they appreciate such challenges. It may seem as if this has strengthened the teachers' consciousness and confidence in their roles as teachers. These findings are supported by Hargraves' (1999) ideas about professional talk and sharing among teachers in a collaborative school..

Based on the results, it appears that colleague observations have influenced the cooperation between the teachers, and strengthened their ability to reflect on and evaluate what happens in the classroom. Other studies also suggest that teachers want to learn more about how they may share tacit knowledge (Løver & Postholm, 2016). Thus, the driving force in the school development project has been colleague observations. Development work that is based on observations and tutoring, and that concentrates on real classroom situations, seems to have given the teachers a better understanding of the method and improved the cooperation between the teachers. They also recognize that they have developed a shared professional language. The arenas for discussion seem to have contributed to the development of the professional language, and pedagogical concepts are connected to actions in the classroom (Lekang and Edvardsen, 2017).

Many of the schools in the UiU project have used the principles of "Backward by design" (Wiggins & McTighe, 2005;) when working with planning, implementing and

evaluating teaching based on formative criteria and goals. The learning objectives of the lessons seem to have been strengthened when time is prioritized and teachers plan lessons together. According to the teachers, discussing lesson plans with teachers within the same subject have provided new ideas of how to reach the learning goals. The teachers emphasize that this has contributed to strengthening their role as teachers. Black & Wiliam (1998) find that such a stronger focus on evaluation of teaching in schools has an effect on the students' learning. Also, evaluations and research in UiU have shown that developing competence in lesson planning has been one of the success factors of the project (Jensvoll & Lekang, 2017).

The schools seem to have developed learning communities focusing on sharing experiences, problem solving and conversations among colleagues (Wenger, 1998). The teachers in this study wish to develop good lesson plans for student learning together. The teachers also find that they have gotten to know each other better through cooperation in their project work, which strengthens their sense of community. As Fullan (2010) argues, the building of robust school organizations affects the learning of both teachers and students, and the learning culture at an individual school will, based on this assumption; decide the learning outcome and the cooperation among the teachers. A community of practice may be developed and strengthened, and the schools may discuss learning conditions in better ways (James & McCormick, 2009).

Based on the findings regarding learning cultures and the development consciousness regarding the teachers' knowledge as well as their own learning, the analysis points to the concepts of professional responsibility, professional autonomy and professional knowledge (Mausethagen, 2015). The model below seeks to visualize this connection, and shows how learning communities and consciousness raising regarding ones' own learning strengthens the professional teacher's knowledge, responsibility and autonomy.

Figure 1: Model of school development

The teachers' professional work has to consider both responsibility, autonomy and knowledge development in the search for new development possibilities. In this process of cooperation and development, the teachers may experience a tension between intentions and autonomy (Nonaka & Takeuchi, 1995). The intentions may seem to coincide with what Mausethagen (2015) calls professional responsibility – what is demanded of them from society, the responsibility all teachers are set to manage, to the best of their ability, utilizing their professional knowledge and autonomy to do so. Thus, the teachers' individual autonomy is challenged, but at the same time, it develops when tacit knowledge is made explicit and strong learning communities are established because the learning community supports the individual work that the teacher does in the classroom. As the model shows, consciousness raising regarding teachers' knowledge is interconnected with the development of learning cultures when schools are able to create meeting places where knowledge is expressed, discussed, evaluated and may be "developed further", as one teacher put it.. These processes strengthen the teachers' professionalism with regard to the three defining areas of knowledge, responsibility and autonomy.

Throughout this study, we have attempted to shed light on the collective development processes, which lead to consciousness raising and strengthening the teachers' sense of professional knowledge, responsibility and autonomy. When teachers are able to combine their experiences, discuss and test out new theories and ideas together, these learning cultures help them build shared competence in their school, and they find this work to be valuable for their own teaching. We suggest that the teachers' tacit knowledge may be an important starting point for the development process, where the teachers may discover current practices and theories and use those to explore new theories and methods, thus giving them ownership to the development process. This work seems to be strengthened by the colleague observations, which put focus on the pedagogical work in the classroom and where pedagogical discussions among teachers are emphasized and made explicit. This way reinforcing the teachers' professional knowledge, responsibility and autonomy may become an important way to boost teacher professionalism as a way to enhance student learning. Thus, school based development projects like these may then contribute to the overarching goal of improving student outcomes in the current era of government-imposed accountability (Mausethagen, 2013) by strengthening professional teachers rather than criticizing and controlling them.

A development strategy, which is based on the teachers' needs for consciousness raising concerning their own teaching, may produce valuable insights that could transfer to other school development projects. New models for professional development in schools may also benefit from having a close cooperation with and support from teacher educators with an expertise in pedagogy, didactics and school development. Such development projects should also include cooperation with school researchers to work towards a common goal of increased competence and quality in the school. At the same time, more research is necessary, to look for more concrete evidence of changes in the classroom, which may require more specific

focus on the lessons, possibly through approaches like Lesson Studies or Learning Studies, which may be our next venture.

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