Means and Goal Directed Strategies in School Development

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Abstract
This paper presents results from the evaluation of the "Knowledge Promotion Program – from words to deed" in Norwegian primary and secondary schools. The purpose of this paper is confined to present a model of schools’ and expert agents’ situating of improvement interventions. For this analysis we draw on theory from Wenger (1998) and his concept of community of practices. The main data sources consist of five case studies and surveys among the participants in 27 projects (N=75 projects) during the years 2006 and 2007. The improvement interventions have been categorized as mean- or goal-situated, where we argue for a goal-situated perspective in order for the intervention to be effective. Expert agents’ improvement interventions have been categorized as process- or solution-oriented and analyzed in relation to frequency of meetings with teachers in the schools. Process-oriented interventions are suggested to be organized with a high frequency of meetings to be effective, while it seem sufficient with a low frequency when it comes to solution-oriented interventions. Combining these orientations with the concept of mean- and goal situating, we eventually suggest an alternative design of future school development program.

Introduction
"Knowledge Promotion – from words to deed" is a government program designed to strengthen the educational sector's ability to develop schools in line with the goals of the school reform. The stated main goal is to put more schools in readiness to create a better learning environment and greater
academic and social progress for students in the short and long term. The main instrument in this commitment is to provide support to school projects that are based on a triangular partnership between schools, school owners and expertise agents. Development projects are implemented in individual schools, possibly in a partnership between several schools. There are school owners who formally apply for support, but it is a condition in the program that the schools involved are involved in the application and the project description. Expertise agents are intended to take a challenging and guidance role, while they also may be responsible for documenting the processes and results of the projects.

The program includes both primary and secondary schools. The program was initiated by the Secretary of Education and Research in 2005, with an application period from 2005 to 2009. The Education Directorate has been responsible for administering the program. A total of 100 projects have received support in the application period, divided by 28 projects starting in 2006, 47 projects with start-up in 2007 and 25 projects starting in 2008. Each year, there have been new applications processed and allocation of funds for new projects. Each project has received support for a two-year period. The latest projects in the program, which received support in 2008, were thus closed in the summer of 2010. The economic framework for the program during the period 2006-2009 has been 165 million crowns. In addition, there will be some funds for the projects that end in 2010.

There are six sub-goals which elaborate the main target for the program. For the projects four sub-goals are formulated:

1. Participating schools and school owners shall improve their ability to assess the school’s practices and results systematically using available quality data and local observations.
2. Participating schools and school owners shall improve their ability to implement comprehensive development projects in cooperation with external partners to achieve better results related to students’ learning.
3. Development projects must contribute to the knowledge and skills in practical school development, thus expertise agents can assist schools and school owners even after the program ends.
4. Development projects shall help to ensure that it produces knowledge-based and useful tools (in the form of procedures, models and manuals) for use in a comprehensive school development.

For the program as a whole, it is formulated two objectives:

5. The program shall make the tools and knowledge about the use of those available through established sites and arenas for knowledge dissemination.
6. The program shall help to build up and disseminate knowledge about the different instruments for quality development in sectors of relevance for future policy development.

The main evaluation questions are:

1) To what extent and under what conditions does the triangular partnership create changes in schools as organizations, making them better to improve their business (increased improvement capacity)?
2) To what extent and under what conditions does the triangular partnership between the school,
school owners and external expertise make schools better to create a learning environment that improve student outcome?

The evaluation has been accomplished by Anna Hagen and Torgeir Nyen from Fafo-institute, Oslo in cooperation with Ulf Blossing and Åsa Söderström, Karlstad University, Sweden.

**Purpose**

Within the frame of the evaluation of the Knowledge Promotion the purpose of this paper is confined to present means and goal directed strategies of school development and a model of schools’ and expert agents’ situating of Improvement interventions. For this analysis we draw on theory from Wenger (1998) and his concept of community of practices. Eventually we suggest an alternative design of future school development program.

**Design and Method**

In the evaluation we have used a combination of qualitative and quantitative methods to collect and analyze data. The purpose of the quantitative studies within the project is to map the distribution of the experiences and findings from the qualitative case studies as well as if it is representative of all the projects. In that way we can draw more general conclusions about the effects of the program at participating schools, school owners and expertise agents. The qualitative case studies provide an understanding of how the processes are happening and which the driving forces are regarding the outcomes in each school and individual project.

The data basis for the evaluation are:
- Case studies of five projects (N=75) with in sum eighteen schools that have received support from the program
- Surveys among teachers, principals, project managers and expertise agents from 27 (N=75) projects
- A smaller survey study among a general sample of head teachers
- Analysis of data from an organizational survey that the project schools conduct.
- Qualitative interviews with people who have worked in the secretariat for the program
- Document studies (application papers, settings, the way reports, final reports etc.) as well as participation in some meetings / gatherings

Of these data sources are the case studies and surveys among the participants in the projects make up the main data base of the evaluation. In the case studies we study both the project as a whole and the individual schools participating in the project. The qualitative case studies are intended to provide an understanding of how the processes have elapsed in the relevant schools and projects, why it has gone as it has gone and how the program has contributed to this.
Results

Four means- and goal-situated improvement strategies

We state that schools in the program mainly use what we call mean-situated strategies to improve student learning. The mean-situated strategies to improve student learning is characterized by that they are situated in situations other than those which are most prevalent when it comes to student learning, that is, the classrooms and the teaching that are conducted there. We have identified four mean-situated strategies which schools seem to use in the projects we have studied:

- Strategies that are about improving teachers' cooperation and ways to talk about learning and teaching, which in turn is thought to improve instruction and student learning.

Creating a good communication between teachers has proven to be a prerequisite for creating more general improvement in students' learning environment. But the assumption that teachers' increased cooperation also will lead to improvements in instruction are not automatic. The increased cooperation can increase teachers’ knowledge without resulting in teachers applying the new ideas in their instruction business.

- Strategies regarding development of monitoring and planning activities by using, for example, syllabi goal tables and individual work plans in which both students and parents are getting involved and which in turn is thought to improve student learning and development.

This link between an increase in students' and parents' awareness of the aims of education and an increase in students' ability and motivation to improve their performance is not evident. Neither that the parents through this may influence their children to achieve more and better.

- Strategies that build upon the basis that if the students are happy during the school day, their will and ability to perform better in school will increase.

For example, to arrange pleasant activities during brakes does not in an obvious way contribute to an increase in the motivation and job satisfaction during the lessons. It has not been a clear link between these activities and what is happening in the classroom, with the result that the projects have affected the student learning to a small extent.

- Strategies that focus on creating order in and outside of class rooms and which intent is to create better student learning.

To reside in a school where disorder rules, can of course, not be seen as a positive learning environment. But it is not obvious that a school with clear rules and sanctions lead to a favorable learning environment. In a business, like a school, that is to be based on democratic foundations, it is important to ask what it is that sets up the school's rules and decides the sanctions. Clear rules and consistent sanctioning systems can be effective without living up to the school's overall values, which among many other things deal with students' right to influence, the opportunity to develop
responsibility for their own learning and their own lives and also to develop trust in their own ability. There is a close relationship between power and responsibility. If children and young people shall develop a sense of responsibility that is not based on simply following rules that others have set up, but also a responsibility which is based in their own beliefs about what is right and proper, it is required that they can exert influence over their lives.

Although the mean-situated strategies dominate in the projects, there are also cases where projects have used goal-situated strategies. An example of a project that has used a goal-situated strategy for the learning environment is those who wanted to improve instruction in a certain subject through mentoring and observation of the teaching. Based on interviews with teachers and students, we nevertheless assess that there was a moderate effect on the learning environment. Reasons for this was due to a defective plan of how the improvements would be transformed into routines in the school organization, relatively low frequency of observation and mentoring opportunities and a lack of coaching knowledge in parts of the group of expertise agents.

Teachers told us in the interview that they had to teach the agents about the kind of coaching they wanted. This was also confirmed in interviews with the expertise agents. They could not answer the question about what knowledge base they based their coaching on. They could not present different models of coaching and had no experience of coaching teachers in schools since previously. Despite this, we would like to suggest that this was not the main reason for the slight effect. Later on the staff together with the agents managed to resolve the coaching deficiencies. Rather, we suggest that it was the low frequency of coaching sessions per teacher in combination with the defective plan for implementing changes in the organizations that caused the low effect. We suggest that monitoring and reflection could be conducted on a more daily basis in the team and that the team could have played a stronger role in the implementing phase. A goal-situated strategy is therefore not sufficient. Or expressed in other words: The goal-situated strategy cannot work if just those who are willing to participate take part in it. And further it may not take effect if it is used sometimes now and then, and it cannot operate without anyone taking responsibility for managing it, align it and putting it into practice.

The four dominant improvement strategies that we have found and which we claim are mean-situated in relation to student’s learning environment, in the sense of classroom and instruction, also gives us reason to be cautious in how to understand the evolution of the overall school improvement capacity. Both case studies and surveys suggest that teachers and school leaders have experienced a greater awareness of their school's organization and that some structures, as well as roles and processes have improved, but if this has led to a more sustainable improvement capacity is questionable if it could not affect and improve the learning environment. The clear dominance of the aforementioned principal strategies and the assumptions about change that underpin them, are pointing to very stable conditions.
Analysis of agent interventions in relation to frequency of meetings.

Expert agents’ impact in schools is likely to depend on a number of factors such as the agents’ knowledge and skills, the content of the improvement work, the time span in work with the school, the improvement capacity of the school and the type of intervention of the expert agent. Regarding the type of intervention of the agents, we have been able to roughly distinguish two types. The first we call "process-oriented intervention", which is characterized by that the expert agents encounter the school during several times to work in a supportive process. The aim is to give schools the opportunity to practice process skills. The different types of dialogues that the agents have carried through in teacher groups are a good example of this. The aim is to give teachers experience of what such a reflective dialogue can contribute with in an improvement effort. The intervention is aiming for practicing the process skills of teachers so that they alone can lead dialogues through phases such as introduction and presentation of problems, inventory of needs, investigation, advisory and valuation. Also included are often to conduct the dialogues in a way where everyone has the opportunity to be heard. The basic idea of a process approach is that a process competence cannot be easily distributed to teachers at a single time, through a single lecture, but needs to be done in an exemplary manner by the very process that it intends to disseminate.

The second type, we would term "solution-oriented intervention". This intervention intends to present a result that could be delivered to the school on a single occasion. One example is the evaluation efforts that the expert agents have accomplished at schools. The evaluation effort is a task which the agent takes responsibility for and delivers a solution at a given time. One can imagine that an evaluation task can also be process-oriented. The aim would then also be to practice the skill to evaluate. In this case, the agent would have to meet the teachers continuously in order for them to have the opportunity to experience and learn the entire process of problem definition, design, data collection, analysis and valuation of an evaluation. However, this has very little occurred in the evaluation efforts we have taken note of in the projects. Examples of other solution-oriented interventions could be lectures in which the task is to deliver the knowledge or the kind of advice where the expertise agents function as links to other external environments or sources of knowledge.

In the cases we have found that the agent’s impact in schools correlates with type of intervention orientation and meeting frequency. In table 1 we have combined low and high frequency of meetings with process oriented and solution-oriented intervention by the agents. The combinations indicate in what degree the agents’ work is sufficient to be effective in schools with low to moderate improvement capacity. For schools with a high improvement capacity, by definition, it is not necessary with external expertise, at least not to the same extent. From the table we can deduce that for schools with low to moderate improvement capacity it is not sufficient with low frequency of meetings for process-oriented intervention. These actions require a high frequency of meetings, both in intensity and over time to make such efforts effective. In contrast, solution-oriented interventions may be sufficient with a low frequency of meetings. Organizing solution-oriented interventions with a high frequency of meetings can be considered a misuse of resources that could be used for other purposes.
Table 1. Degree of sufficiency of expert agent's interventions and their impact in schools with low to moderate improvement capacity.

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<th>Process-oriented intervention</th>
<th>Solution-oriented intervention</th>
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<td>Low-frequency of meetings</td>
<td>1) Not enough sufficient.</td>
<td>2) Sufficient.</td>
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<tr>
<td>High frequency of meetings</td>
<td>3) Sufficient.</td>
<td>4) More than sufficient</td>
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For those interventions we have studied in the evaluation they generally are combined as displayed in 1 and 2. Both process- and solution-oriented interventions have been implemented with low or fairly low frequency of meetings. According to the table, the best effect in this case is reached for solution-oriented interventions, while process-oriented interventions do not lead to sustainable capacity improvement in the school when the meeting frequency is so low.

**Process- and solution-oriented intervention in relation to mean- and goal-situated improvement strategy**

Previously, we have introduced the concepts of mean- and goal situated strategies and argued that it is important to determine how an improvement strategy can be situated in order to be effective. Process- and solution-oriented interventions could be both mean- and goal-situated in relation to what should be improved. Let us take the example that the mathematics instruction should be improved. Here, for example, study learning could be understood as a process-oriented and goal-situated input from an expert agent. In study learning the agent leads a group of teachers' planning, e.g. how the percent concept could be introduced to the students. One of the teachers then teaches according to this plan, while the colleagues observe and record the lesson on video. Students are interviewed about how they experience the learning and after that the teachers improve the planning whereupon one of the other teachers teach this in a different group of students. In this way the agent manages a process of teaching experiments with continuous improvements that are largely situated where teaching and student learning takes place, in the classroom. The process includes many steps which require a high frequency of meetings. Teachers and agent needs to meet frequently and repeatedly in order to consolidate the working steps in study learning.

But you can also choose to organize a process-oriented effort that is mean-situated in relation to the work of improving mathematics instruction. Reflective dialogues can serve as such an intervention. A reflective dialogue can consist of several steps in which the teaching dilemmas are being invented, being problematized from different perspectives and where conclusions are drawn about the consequences for the teachers’ instruction skills. Expert agents lead teachers through these steps and also try to
mediate important communication skills such as how to make everyone participate, listen actively and ask in-depth questions. The reflective dialogue model includes several steps and operations and requires many sessions over time to be consolidated among the teachers, but it is not situated in the classroom where the teaching and the objective of the improvement work will be realized. The agent implements the reflective dialogue in the staff room in the afternoon when students have gone home from school. The intervention is therefore mean-situated.

Putting together process and solution-oriented interventions in different situatings can provide combinations that in a traditional school approach may seem quite different and relatively untested. Let us stick to the example of improving mathematics instruction, but consider how a solution-oriented intervention might look like, which only requires a low frequency of meetings. A lecture by an expert in the field dealing with this can be understood as a solution-oriented intervention. The lecturer displays a number of models that he or she goes through and explains. The expert is good at describing and explaining. It is easy for teachers to understand and the lecturer also shows the teachers where they could find documentations on the models. As the lecture has finally come to an end, the expert has “solved” the lack of knowledge and has pointed to the area of interest and where to find further information. These kinds of lectures are often given to teachers on a study day on which all teachers gather in the school auditorium. It is therefore mean-situated. It does not take place where the goal of the improvement work of mathematics is supposed to be realized, namely in the classroom through instruction.

If we make this solution-oriented action goal-situated it means that the agent would keep the lecture in the classroom, and perhaps together with the students – so, why not! It would mean that the expert had to adapt the lecture somewhat. It would probably not be given to as many teachers at the same time, but in the classroom it would be possible for the lecturer to make direct references to the place where the instruction takes place. For example, he or she could ask the audience to look around the classroom and see if there in this mathematic room exist practical laboratory materials available to students. Furthermore, the lecturer could raise the issue of students' placement in the classroom and its impact on students' cooperation in mathematics or directly note and discuss the facilities in the classroom, such as active boards or computer equipment.

And certainly it is an interesting idea that students could participate and listen to the lecture! Then there would be reason for the lecturer to address the ways in which students can relate to the mathematics subject. Students could identify with different descriptions and have the courage to consider alternative learning approaches. And when the expert describes different ways to teach mathematics students who have had only one or two math teachers get an interesting insight into what other ways their mathematics learning could turn out. And maybe they would then request a different instruction, and thus help the teachers to get on with the testing of improvements.

**Concluding Remarks**

On several occasions we have expressed reluctance in the evaluation as to whether the design of the program with a trilateral cooperation between schools, school owners and expert agents is a successful
idea. Our main objection has been that two of the parties are not involved in the daily practice at the school level. Both theoretical and empirically we have argued that it is the local school which is the center of school improvement, where teachers, students and school principals are the main partners in the process. School owners and expert agents are important parties of responsibility in somewhat different way, but they play no major roles in the daily improvement work in schools. As regards the expert agents, we have also shown how the low frequency of meetings to which they have had the opportunity to meet with teachers in schools is not a sufficient condition for their intervention to be effective. Based on such reasoning one can conceive that these parties have been highlighted in the program at the expense of the local school party, especially teachers and students.

How would an alternative program design look like? One possibility would have been to bring the local school party with the principal, teachers and students to the forefront and allow the school owner and expert agents to be in the background. It is for example possible to imagine that there had been a requirement in the project applications to formulate a clear description of students' participation in the projects instead of the requirement to involve one or more expert agents. In this way, students as one of the local school parties would be highlighted. Another possibility would have been to require formulation of how various forms of teacher learning could be organized in which educational issues were focused or how the teacher teams could be expected to assume greater responsibility for the project. In this way the teacher party would end up in the foreground. External support in the form of expert agents could be maintained by encouraging schools to take such contacts, but not necessarily as a requirement. School owners would also be included here as ultimately responsible for attainment of the objectives and follow-up work.

References