

*A shortcut to the the Norwegian Competence Report 2005*

# Do pupils at learning schools learn more?



UTDANNINGS- OG  
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## Foreword

The Ministry of Education and Research presented the first Norwegian Competence Report in 2003. This report focused on the subjects of lifelong learning and learning at work. One of its conclusions was that employees in the education sector experience somewhat poorer learning conditions than one might expect. The impression gained was that schools were somewhat less likely to be learning enterprises than other organisations.



The Norwegian Competence Report 2004 follows this up by looking at schools as learning organisations. It is especially important that schools in particular are able to utilise, manage and develop the competence of their teachers. It is very important to investigate whether or not this results in every individual school being better able to produce a good learning environment for its pupils and ensure they progress well academically.

The government's reform of compulsory schooling and upper secondary education, *Knowledge Promotion*, will be implemented in 2006. A historic focus on developing the skills of managers, teachers and instructors is already underway. We intend to preserve the best of what already exists and develop further. A goal oriented effort will be required at all levels of the education system over several years if we are to succeed. The most important contributors to this collective effort will be committed school managers, teachers and school authorities.

Over the last few years we have learned more about conditions in Norwegian schools. We know that we face some important challenges, however we also know that many schools, through hard work and great enthusiasm, have achieved good results. The Ministry of Education and Research has gained a greater insight into the issues through contact with such schools and is strongly convinced that individual schools *can* make a big difference. We hope that this report will reflect this, and that it will contribute to a more nuanced picture of everyday life in Norwegian schools. We also hope that it will be a source of inspiration in the work on developing Norwegian schools.

The report was written by Annette Skalde and Mona Skaret. As part of their work on the Norwegian Competence Report they have procured valuable contributions from a number of schools and individuals. A list of contributors can be found at the back of the report. These people are not responsible for the contents of the report. We would like to thank all those who have contributed comments, ideas and examples, and hope that we have managed to communicate the insight you have given us in a satisfactory manner. We encourage all schools to provide us with feedback, regardless of whether or not you recognise yourself or have other experiences that we have not managed to cover.

A blue ink signature of Kristin Clemet.

Kristin Clemet

Minister of Education and Research

### ***A shortcut for learning schools: measurements and pattern breakers***

The Norwegian Competence Report 2005 looks at schools as learning organisations. This is an extensive subject with many approaches, both professional and practical. We have tried to produce a brief summary with digressions to theory and practise, figures and examples. It is a *shortcut* to important issues and possible answers, not a complete overview of the field.

The shortcut tries to take you behind the headline “schools as learning organisations” in order to enable us to distinguish learning schools from those that are not. The purpose of these first measurements has not been to find out what proportion of Norwegian schools are learning schools, but to look at whether or not learning schools are more successful with respect to the pupils’ learning. If more schools are going to develop in this direction, it is important to try and find out what schools get in return for their efforts. We have therefore made the first attempt to document whether or not there is a correlation between a school’s results and a focus on skills development.

At the same time there are many aspects of organisation development that are difficult to quantify in practice. Innovations are always driven by people. Improvements and revitalisation require hard work, energy and motivation. We present experiences from *pattern breakers* in Norwegian schools in order to provide a better impression of how the work is progressing. The purpose of this part of the shortcut is to look at what we can learn from schools whose development work has been successful. We have looked for schools that have broken rigid patterns, and asked:

- ➡ What did the teachers and managers do as a team to improve practices in their school?
- ➡ Where did they start and how did they get the entire teaching faculty to join in?
- ➡ What do they feel they have succeeded in doing, and where have they tripped up?

Some of these schools have improved but still have some way to go. Others have perhaps moved up the scale from good to best. Regardless of this, what the pattern breakers have in common is that they possess insights and experiences that other schools can learn from. Breaking with established practices costs just as much for an average school as it does for a good school. It can be difficult for a group of ambitious teachers and managers at a school that has struggled with social problem or poor academic results to learn from schools that have apparently done “everything right”. It might be easier to utilise the experiences of the average schools, at least to begin with.

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## Section 1

# Basis





### **Why a shortcut for learning schools?**

White Paper No. 30 (2003-2004) *Culture for learning* stressed the significance of schools themselves developing as learning organisations. A learning organisation can be defined as an organisation that develops, manages and utilises its knowledge resources in such a way that the entire organisation is put in a better position to master day-to-day challenges and establish new practices when necessary<sup>1</sup>.

Academic and social learning constitute the core tasks of schools. Several researchers have over the years pointed out the paradox in the fact that actors within the education system, schools, teacher training, as well as the central authorities have not taken the organisational development of schools and the development of knowledge taking place there seriously enough. Schools have traditionally also not focused very much on the fact that they are organisations (Lillejord 2003, Roald 2000, OECD 2001).

Norwegian schools have developed a lot over the last few years and there have been several major government efforts regarding organisational and management development in the sector. The question however is whether or not, and in what way, the work on organisation development is contributing to the better academic and social development of the pupils. Do improvements at an organisation level, i.e. what happens between and around the classrooms, put teachers in a better position to resolve tasks within the classroom? A study conducted in connection with an evaluation of Reform 97 shows that it is difficult to find traces of management in schools once one passes the threshold of the classroom (Imsen 2004). This is not unique to schools; other sectors also experience the problem of organisation development not being very closely connected to the organisation's core activities. A survey of American companies (Pfeffer and Sutton 2000) showed that it was possible to trace signs of changes in practice due to work on organisation development in only one in five organisations. At the same time it is important to understand that change is not a goal in itself. This applies to schools in particular which are supposed to preserve their function as purveyors of tradition.

The schools' surroundings, both society at large and actors in the local community, make many and somewhat contradictory demands on schools and the learning that takes place there. It is difficult to obtain objective information about the degree to which the many expectations of schools are fulfilled. Schools have also not to any great extent traditionally made more unequivocal demands regarding results, including in those cases where this should be possible. An analysis of schools as learning organisations can therefore not be viewed independently of how society and the authorities seek to manage quality in the education system.

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<sup>1</sup> This is the Norwegian Competence Report's definition of learning organisations. See "Does the Norwegian Competence Report rest on a platform?" for the theoretical background for this definition. See Senge 1990, Roald 2000, and Lillejord 2003 et al for other definitions of the term.

The teaching profession has traditionally been granted a relatively large amount of autonomy when it comes to deciding what constitutes good quality education. Education has followed the one teacher, one class, one subject model with little interference from colleagues and managers. This may function well for capable teachers, even though it provides limited opportunities to make good teaching even better and to spread effective practices to more teachers. More seriously perhaps this method of organising schools makes it difficult to reveal cases where the teaching does *not* function as planned thus allowing schools to do something about it. In somewhat simplistic terms one can say that the education authorities have, historically speaking, relied on the profession as the guarantor of quality, but that over time this has been weakened somewhat in favour of a larger degree of detailed government management through legislation, curricula and other directives (Bungum et al 2002).

This has contributed to the underdevelopment of organisational development, management, and the following up of pupils' results in many schools. In the last few years, legislative changes have granted greater freedom of action to schools with respect to organising their activities in line with local needs and conditions. Teachers and school managers in the individual school will be able to find out how the days of pupils and teachers can best be organised and carried out within the framework of more specific and binding competence goals in the curricula<sup>2</sup>.

The management method that is now emerging is intended to contribute to better quality through more responsibility for the individual school combined with greater transparency, more informed choices and a better basis for assessing the results of one's own practices. However, one can object that quality assessments have little value if the information about the learning environment and academic progression is not used actively in improvement work at all levels of the education system. A study of American schools' use of assessment systems shows that many schools have had poor results for years without measures being introduced to promote the pupils' motivation and skills (O'Day 2002). Using this type of information well requires an ability to interpret and take on board the results. The organisation must also be willing to expend energy on changing its strategies based on whether the results are good or bad. The school as a whole and the management are thus vital when it comes to a quality assessment system which functions as planned. O'Day highlights factors such as trust, cooperation between teachers and a collective responsibility for the pupils' learning. The ability to move from quality measurements to goal oriented development work is something the management and staff in each organisation must work on together. It is difficult to send individuals on courses in order to get "top ups" of new patterns of interaction.

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<sup>2</sup> See Circular F 13/04 "This is Knowledge Promotion" for an overview of changes to curricula and structural changes in the Reform.

### ***The whole is something else***

There are many capable individual teachers in Norwegian schools. However, the fact that one of the teachers at a school is a “master “ in teaching, for example, weak pupils mathematics and sparking further interest in the subject, is of little use if this only benefits a few pupils. Being a learning school is about, among other things, developing and managing this scarce resource just as well as one manages limited financial resources.

Principals can, for example, give this capable teacher an opportunity to specialise more and teach more pupils mathematics instead of also teaching natural science subjects. The school could facilitate other mathematics teachers working with their colleague for periods so they can share experiences about how various teaching plans “impact” various pupil groups. Or the capable teacher can be given a more formal role as a mentor and advisor to other teachers in the school so they can share knowledge and be infected by her commitment to this pupil group. A mentor role like this can also be expanded in cooperation with school authorities allowing effective mathematics teaching to spread to more schools. Perhaps it is precisely this type of challenge and recognition that will make the capable teacher choose to stay at the school for six more years.

In this way the school’s organisation, reward system and day-to-day teaching can make all the difference in the world – to the capable teacher, her colleagues and, not least, the pupils’ desire to learn. The task is to ensure that the whole becomes more than the sum of the parts.

Schools are meeting a steadily increasing diversity of pupils and guardians. Pupils are entitled to adapted learning based on their aptitudes and needs. In order to succeed with this, schools depend on competent teachers who are ambitious on behalf of their pupils. What happens between teachers and pupils in the classroom determines the quality of the education (Rivkin et al 2002, Gustafsson 2003, Bonesrønning 2002, Birkemo 2002)<sup>3</sup>. There is a little doubt that a teacher’s academic and educational competence is of great significance when it comes to the pupils’ learning. However, this is also a reason for improving a school’s utilisation and development of the competence of its entire teaching faculty, because not only is it important that the most significant resource is used and developed as best as possible, it is also important because what a school can do in the short term regarding overall teacher quality is limited. Regardless of whether a school has managed to attract the very best teachers or the picture is more complex, it is important that one gets the best out of the staff one has.

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<sup>3</sup> See chapter 4, “What makes a good school?”, of “The Situation in Primary and Secondary Education in Norway” (UFD, 2003) for an overview of research in this area.

Each individual school must to a greater degree function as a learning organisation with clear, development oriented management in order to exploit this new freedom of action and be able to meet the diversity of pupils properly. However, it is difficult to develop schools as organisations through new legislation and goal descriptions. It is first and foremost the staff and managers at each school, in cooperation with active school authorities, who can help to develop better functioning organisations and even more goal oriented contributions.

### **Where does the shortcut lead?**

The subject of schools as learning organisations is not new. Many people have argued that development at an organisational level and better utilisation of everyday teaching in schools are important means of improving quality in schools (e.g. see Dalin 1978 and Tiller 1986). However, we have known little about whether it is actually true that learning schools achieve positive and quantifiable results in their work with pupils. In this shortcut we try to pick up the trail of the goal oriented, learning schools to see whether schools that are organised and interact as learning organisations succeed in producing a better learning environment for the pupils and ensuring they progress better academically. Being a learning school demands a lot of both the teachers and managers, therefore it is important that sight is not lost of the goal of the activity. If the pupils do not learn more or experience a better learning environment due to this effort, then there is little point in making it.

The target group for this report is primarily school authorities, school managers, teachers and others involved in the development of schools. The shortcut does not provide an exhaustive presentation of the subject, rather it is meant as a basis for further research, debate and dialogue about the correlation between organisational development, the everyday work of teachers and the pupils' learning.

The shortcut is divided into three parts:

*1. Basis: here we try to return to the heading learning organisation.*

In this section we present a brief overview of what we know about the learning situation for staff in the education sector, before we look at the theoretical basis.

*2. Quantitative: here we ask whether pupils learn more if they attend a learning school*

In this section of the report we present a survey of upper secondary schools conducted by The Learning Lab. The survey identifies learning schools and their characteristics, and asks whether these are schools that achieve better results for the pupils. This is a relatively small survey, a first attempt that only provides a basis for preliminary answers to this complex question.

*3. Qualitative: here we ask how one can move forward in developing a learning school*

In this section we present experiences from schools that have systematically worked to establish new practices in their organisations. In addition to qualitative studies, we build on our own interviews with principals and teachers.

## **What do we know about teachers' learning?**

In the Norwegian Competence Report 2003 we looked at the learning situation in the entire labour market. In this brief review we present statistics from the education sector that may tell us something about the working and learning situation of teachers.

Schools have considerable knowledge resources with many highly educated staff members. Statistics Norway's (SSB's) Working Environment Survey (2004) shows that employees in the education sector are more likely than other occupational groups to state that they are able to use their education and work experience in their work. The education sector, however, comes out badly with respect to the question about the extent to which one is assigned tasks based on what one actually knows or based on more formal criteria such as seniority and qualifications (Vox Barometer, spring 2004).

Teachers are in many ways the first knowledge workers, being well educated and having a relatively large degree of autonomy in their work. In the Working Environment Survey (1996-2004) it is clear that employees in the education sector have a great deal of freedom to determine for themselves how they are going to do their jobs.

This occupational group considers continuous learning to be a necessary and natural part of their job to a greater extent than many other employees. Updating their professional knowledge, changing working methods and using new tools throughout their career is a prerequisite for tackling the everyday challenges of working in schools. Teachers are the occupational group that most has to learn new things to do their jobs; they face higher demands to learn in their everyday work (Learning Conditions Monitor 2003-2004). Employees in the education sector are also the occupational group that is most likely to state that their work is characterised by innovation and new ideas (Vox Barometer, autumn 2004).

The competence of its employees is the most important resource a school has. Teachers generally participate a lot in continued and further education (Learning Conditions Monitor 2003-2004) and they believe the opportunities for this have improved greatly in the last few years (SSB's Working Environment Survey 1996-2004). Continued or further education is often initiated by the individual teacher and not based on the wishes of the employer (Hagen, Nyen and Folkenborg 2004). The same survey also shows that the benefits of continued and further education are regarded as relatively low, especially with respect to short courses.

Despite high levels of education and demands regarding learning, school staff do not have as good opportunities to learn in their everyday work as one might expect (Learning Conditions Monitor 2003-2004). This is especially true in primary and lower secondary schools. We do not know very much about why employees in the education sector do not score especially high with respect to the opportunities for everyday learning. One of the explanations for this could be that the work in schools has traditionally been organised in such a way that

staff have little opportunity to learn together. It may also have something to do with the fact that teachers are less likely to prefer learning through practice than other employees when they need new knowledge for their job (Hagen, Nyen and Folkenborg 2004). SSB's Working Environment Survey also shows that employees in the education sector are the people who are least likely to receive feedback from their superiors about how they are doing their job.

We have previously defined learning organisations as organisations that develop, manage and utilise their knowledge resources in such a way that the entire organisation is put in a better position to master everyday challenges and establish new practices when necessary. To be a learning school it is important to have individuals that remain up-to-date vis-à-vis their fields and good practices, and who have the elbowroom to do their job. However, a learning organisation is not the same as an organisation in which all individual employees learn a lot. Acquiring new knowledge and participate in learning processes can have inherent value for the individual employee. However, for an organisation the extent to which learning is of interest primarily depends on how much it contributes to the organisation meeting its challenges in a better manner. The sum of what an organisation accomplishes can be far more or far less than the sum of the individuals' competence.

The individual, teams and the entire organisation need to learn in order to improve the organisation's overall performance. The surveys we have referred to above indicate that schools primarily need to work as teams and as schools as a whole. We will therefore now turn our attention to everyday learning in teams.

### **From theory: on the trail of everyday learning**

The theoretical perspective in the shortcut is based on three classic contributions to the literature about learning organisations: Chris Argyris and Donald Schön (1978), Peter Senge (1990), and Ikujiro Nonaka and Hirotaka Takeuchi (1995). All of them take as their starting points that much of the practical knowledge we use to perform our jobs are facts we have not read in a book or acquired at school, but that employees themselves create knowledge when they face specific tasks and colleagues. These authors build on learning theory and knowledge sociology which, in slightly different ways, link competence and learning to action and interaction in social contexts<sup>4</sup>. In this shortcut the socio-cultural learning perspective is applied to the employees learning and not to the pupils as one is used to vis-à-vis schools.

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<sup>4</sup> Scholars in organisational studies and economics often see this perspective on learning in connection with the writings of authors such as Polanyi (1996), Nelson and Winter (1982), Donald Schön (1983), Lave and Wenger (1991), Orr (1996) and Orlikowski (2002). The socio-cultural perspective on learning draws on Dewey, Mead, Vygotsky and Bakhtin. See also "Does the Competence Report rest on a platform?" from 2003.



These key writers highlight the practical learning that takes place everyday in small groups and teams. They claim that this is critical when it comes to improving performances, disseminating knowledge in the organisation and innovation. As employees we do not only learn when we participate in organised learning activities. Some of the most valuable learning occurs when we tackle new and demanding tasks together with capable colleagues, or when we discuss on the basis of specific results how the job can be done better next time. Other people highlight the concept of receiving feedback concerning work done from managers or users as an important source of learning. All of these activities can be referred to under the collective term of everyday learning.

Even though only a few managers and employees in the Norwegian workforce are familiar with the theories about practical, collective learning, a large number state that the thinking behind everyday learning accords well with their own experiences. When employees learn, this is often a by-product of activities with completely different aims than learning, for example tackling a demanding task. Nonetheless, skills development in organisations has traditionally been based on an understanding of work and learning as clearly separate activities. Everyday learning challenges this distinction.

In our work on the Norwegian Competence Report we have focused on recognising and measuring everyday learning in working life. Allowing colleagues to work together in order to learn from each other is nothing new in itself, especially within occupations based on trade traditions. This exists both in the form of journeymen who observe and work together with a master craftsman in their work and in apprenticeship schemes in vocational study courses. These examples are about training new employees for a specific job. Julian Orr (1996) shows in his study of photocopier service technicians in Xerox how everyday learning can also form an important part of professional development for experienced employees. The study shows how sharing stories about especially difficult repair jobs is the actual key to developing the expertise necessary to become a capable service technician. Developing more experienced employees by offering varying and steadily more challenging tasks is used less (deliberately) in the case of highly educated employees. Several research studies that followed managers and how their careers developed over time found however that exposure to different types of tasks and challenges at work is vital to a manager's development and learning<sup>5</sup>. This research has resulted in development programmes for managers that take work experience as the most important source of learning as their starting point. This line of thinking can probably also be applied more actively to other highly educated employees. This can mean that the organisation deliberately puts together teams of employees who can learn a lot from each other, or ensures that

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<sup>5</sup> See McCauley and Brutus (1998) for a good overview of this research.

space is created for reflection during the execution of demanding projects which are otherwise characterised by a lack of time. In this way everyday learning can become a more integrated part of the organisation's strategy and practice vis-à-vis skills development; not because it is intended to replace organised learning, but because participation in courses and further education only amounts to a relatively small proportion of the working year anyway. The public and private sectors in Norway invest a relatively large amount in organised learning. According to Hagen, Nyen and Skule (2004), the average employee spends around 26 hours a year on courses and training. However, an extra "course day" hardly weighs up against 260 workdays with few challenging tasks and few colleagues to learn from. A more deliberate use of learning in everyday work is, quite simply, important because there are so many workdays.

Nonaka and Takeuchi (1995) are interested in the fact that we do not only have access to new ideas and new knowledge, but that we also acquire this knowledge.

Incorporating new knowledge into a working partnership almost always requires some form of "translation" and modification. This is particularly demanding if one is building on knowledge and ideas that one individual in the team has acquired at a "safe" distance from established tasks, patterns of interaction and standards in the organisation. In this case the translation costs can be substantial.

The need for translation is usually less when the learning situation is similar to the everyday situation in which the knowledge is going to be used. When colleagues provide each other with feedback or develop new practices together and

### **Translation costs**

Many people have experienced retuning home from a seminar with an enthusiastic and capable lecturer brimming with new knowledge, good ideas and inspired to try out a new way of working or new methods. Even though your head is full of potential opportunities for improving one's own work all weekend, the following Monday is often a disappointment. The methods and many good ideas do not always survive the encounter with everyday working life. The application of new teaching methods always has to be adapted somewhat to take account of the individual teacher's strong and weak points, and the pupils' needs and aptitudes. The attempt to adopt new work methods may run aground when faced with the relevant objections and established working practices of the rest of the teaching faculty. The other teachers have not been infected with the lecturer's enthusiasm and perhaps do not regard the method as particularly original or applicable. Doubts arise. Perhaps this approach will not fully function in our school or with these particular pupils?

The path from individual learning to new organisational practices can (and often should) be long.



this takes place within a framework of a community of practice, it is often the case that little translation or modification is required. The knowledge is already, more or less, embedded (situated) in the community of practice and integrated into the interaction (Lave and Wenger 1991). Even though practical learning in the team is about learning while one is really doing something else, the literature on learning organisations places great weight on one's capacity for critical reflection. If the current practices and mindset cannot be carried into the future, it is often necessary to ask questions about the fundamental causes behind any poor results. In principle, bad habits are just as easily transferred between colleagues as good practices (Argyris 1986). The problem is not primarily learning. We all do this constantly to some degree. It is more a question of what is being learnt and whether it is regarded as valuable. Argyris and Schön (1978) introduce the term double-loop learning. It is not always sufficient to focus on doing things right, one also has to ensure that the organisation is doing the right things. This requires the organisation to create space, resource-wise and intellectually, for critical analysis and reflection on one's own practices.

### **From team learning to organisation learning and learning pressure**

Everyday learning can contribute to the creation of new knowledge and practices in various parts of an organisation. But learning in individual teams is not always sufficient. Processes and small step improvements may function brilliantly in a team, without one succeeding to spread the ideas and working methods to the entire organisation. Giving capable individuals sufficient elbowroom must be balanced against common visions and obligations, says Senge (1990). The author claims that to achieve this the organisation must have an ability to think holistically and be able to discuss the organisation's fundamental understanding of what it is important to improve. Learning organisations are good at reflecting on their own practices. Team spirit, shared mental models, and visions that are perceived as meaningful by the employees are other important characteristics.

Many people will intuitively recognise these traits vis-à-vis the organisation's method of working and culture as important for ensuring strong individuals pull together in the same direction. The theoretical framework is used a lot as a basis for discussions and reflections within one's own organisation, and an attempt has been made to operationalise these characteristics through questionnaires. The Learning Lab's surveys of organising conditions in Norwegian schools (Lindvig and Wærness et al 2004, Andresen, Lindvig and Wærness 2004) are one example of this. Here the researchers have supplemented Senge's theories about learning organisations with Durkheim's sociological theories about collective consciousness and the individual's communal solidarity, and they have also applied psychological theory about the individual's perception of his or her self as relatively powerless bricks, or as actors with an opportunity to influence their own situation and take the initiative vis-à-vis the community (Nygård 1993).

In line with several organisational theorists in the 1980s and 1990s, Senge places great weight on increasing the organisation's capacity to interpret incidents in various ways. Many of the characteristics are related to precisely the ability to change mindsets or look at things from a new perspective. If the pupils or surrounding community changes, then it is an advantage not to be too "locked into" a specific way of thinking about what a school is, how the teaching is implemented, how the teachers' work is best organised and what the role of the pupils is. Senge's point is that the organisation's ability to come up with constructive solutions when faced with new challenges often depends on one being able to think outside the established mindset and look at the situation from a new perspective. The ability to come up with several ideas for solving major and minor problems is necessary and important to all organisations. Neither Senge nor other traditional economic theory discuss as thoroughly what it takes to implement ideas in real life. In the practical organisation's life we sometimes see that managers and owners move boxes on the organisation chart without taking adequate account of the fact that different units have accumulated unique competence, or that the employees' practices do not seem to change noticeably from one reorganisation to the next. This is perhaps an expression of the fact that many people equate organisational development with changes to formal structures (Levin and Rolfsen 2004). When an organisation does not succeed in changing practices and interaction this does not mean necessarily that there is something wrong with the organisation's capacity to interpret. It could just as easily be that the organisation's capacity to implement and development projects and absorb ideas (Cohen and Levinthal 1990) is too poor.

When radical changes are going to be implemented, an organisation's structure, standards and reward systems will often get in the way of the establishment of new common practices throughout the entire organisation. It is difficult, for example, to realise the goal of adapted learning if the model of "one teacher, one class, one subject, one hour" still provides the basis for the organisation of work in a school, and it is of little benefit that natural science teachers decide to provide each other with more feedback about work done, if the work schedule and timetables mean that one seldom has an opportunity to see one's colleagues in action in front of a class. Sometimes structural measures are needed, other times one has to come up with new patterns of interaction and playing rules that function better. An individual team can seldom change the culture of an entire organisation, or modify the formal division of responsibilities in the organisation. One also needs processes for the improvement of the organisation's overall performance. Such learning processes are typically embedded in the organisation's management.

So what does this mean specifically? The illustration on the next page highlights four learning processes at an organisational level that are important to learning from one's own experiences and establishing new common practices. The illustration is based on Kolb's (1984) theories about experiential learning, though here they have been applied at an organisational level. The various proc-



*Figure 1: Four learning processes at the organisational level*

esses are given different weight in different organisations, and it is not the case that one needs to go through the various steps in a specific order. The internal follow-up of poor results or an external critical observation can mark the start of a development process. The documentation of good results can also represent a worthy conclusion to a successful development process. Actions can occur before reflection and vice versa. The processes on the right side describe an action mode, while the left side is more reflective.

The ability to absorb ideas and carry out development projects is naturally closely linked to traditional management tasks such as taking decisions, rewarding people when they do a good job and including employees in the organisation's development work. In a knowledge organisation such as a school it is also absolutely vital that many employees in the organisation contribute to the work on identifying and reinforcing good practices. In order for a new form of working and a new philosophy to survive their encounter with different employees and departments in the organisation, one requires enthusiastic drivers, devil's advocates and clear management. Good ideas and innovation are necessary for development, but practical skills in project management, group processes and following up specific results can also be very beneficial in the work of disseminating good practices throughout an entire organisation. It can therefore be a good idea to discuss what should be given most weight in the development work: actions or ideas? Visions or concrete experiments? Tough conceptual discussions or solid assessments of results?

The ability to implement development processes at an organisation level also depends on another key term, namely learning pressure. This term was introduced in the Norwegian Competence Report 2003. By learning pressure we

mean the existence of a collective perceived need for learning and improving the organisation's performance. The term is based on a recognition of the fact that a lot of learning takes place simply because situations demand it. By setting ambitious goals and prioritising hard between contradictory demands, an organisation can create positive learning pressure in the organisation. This supplements the literature about learning organisations in that one is trying to establish a clearer connection between the organisation's core activities and its ability to manage and develop its human resources.

We have previously pointed out that schools are subject to the high expectations of pupils, parents, the media and the central authorities. These are ambitions that others have on behalf of schools. These expectations must be held up against the concrete strong and weak aspects of the individual school. The organisation and management must filter through the volume of demands and ambitions if a realistic goal oriented learning pressure is to result in the organisation. Nonaka and Takeuchi (1995) describe the importance of such a management role as being the "negotiator" and problem solver in the meeting between general external demands and plans, and specific strong aspects, opportunities and weakness in one's own organisation. This entails the management not accepting or defending all bottom-up proposals and ideas, but that nor is it satisfied with functioning almost like a messenger for top-down plans and decisions. The authors call this form of management "middle-up-down" and believe that this is an important management role that both exploits the improvement energy in one's own organisation and has legitimacy amongst one's own employees, while at the same time from the outside the organisation appears more credible and responsible. In other words, goal oriented learning pressure is not only expressed as expectations from outside or the management alone, but as a collective expectation of the entire teaching faculty.

Changes to the structure and culture of an organisation require hard work over a long period of time. There is a limit to the number of radical changes an organisation is able to implement in parallel with the execution of its everyday tasks. Nor is changing as much as possible in itself a goal for an organisation, rather it is creating the correct balance between continuity and revitalisation (March 1991). Clear management is required to avoid the school initiating so many projects it will not be able to realise them. It is also important not to lose sight of the purpose of the development work in order to keep managers and employees motivated. Learning pressure is therefore about having clear ambitions for a few areas that are closely related to the teaching.

A high degree of learning pressure does not need to be linked only to long-term revitalisation or radical changes. It can also be expressed as a great capacity for implementation and high ambitions vis-à-vis achieving good results every day. Here the researchers partly rely on Erling Lars Dale's theories about three levels of competence, namely the competence to carry out tasks, to plan and assess one's own execution, and the competence to carry out long-term improvement

work (Dale 1999). The organisation's vision and long-term goals are meanwhile more closely linked to the everyday work and small step improvements by the questions being formulated with the intention of embracing both acting and reflection at all of the three levels.



## Section 2

# Quantitative





## Main findings from the upper secondary schools survey

In order to be able to answer the question about the extent to which learning schools are more successful vis-à-vis the pupils' learning than other schools we use a new upper secondary schools survey conducted by The Learning Lab in the autumn of 2004 on behalf of the Ministry of Education and Research. The questionnaire was sent to 40 schools. Around 1,000 teachers and school managers at 39 upper secondary schools answered the questions. One school withdrew from the survey. This equals a response rate for the teachers of around 50 per cent, which is not unusual, but which has to be taken account of when interpreting the results. The gender, position and age distributions of those who answered the questionnaire are representative in relation to all the staff in Norwegian upper secondary schools.

The purpose of the survey was to discover important characteristics of learning schools and to analyse whether or not these score better vis-à-vis the pupils' learning. The schools that took part in the survey were selected based on the idea of obtaining variation in the material<sup>6</sup>. The survey therefore did not provide a basis for stating how many upper secondary schools in Norway are learning schools.

By using organisation theory, learning theory and the Norwegian Competence Report's terminology we have tried to differentiate between learning schools and schools that are non-learning schools based on how the teachers and school managers answered the questions in the survey.

The analysis of the data reveals that learning schools have the following characteristics:

- A well-functioning organisation in which the teachers feel that they are part of a team with goals that motivate them. This is not a culture where people do as they wish.
- A high level of ambition in the faculty, i.e. high expectations vis-à-vis using each other's competence to make the teaching as good as possible.
- The teachers speak very highly of the management. Managers of learning schools are particularly good at rewarding proficiency, but they also have greater legitimacy. The managers' ability to include the staff in the school's development and to prioritise and use power when necessary is also regarded more positively.

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<sup>6</sup> Around half of the schools chosen score above average when it comes to the pupils' answers to "The pupil inspectors". Around half score below average. "The pupil inspectors" is an electronic questionnaire that is sent to all pupils in Norwegian schools and in which pupils state their opinions about factors that are important vis-à-vis learning and flourishing. In other words the schools were selected based on the aim of including both schools that are successfully creating a good learning environment for pupils and school that are less successful in doing so.

The schools involved in the survey are located in various parts of the country and represent different types of school (vocational and ordinary). Both large schools and small schools were selected. The schools were asked to participate by calling them by telephone.

- There is a good deal of everyday learning, good interaction between the teachers and it is easier to get help from colleagues in learning schools. The teachers try out new teaching plans together and discuss how to do their work better.
- The good deal of everyday learning is, however, *not* acquired at the expense of the organised learning. The staff at learning schools participate more in all forms of skills development, including formal further education. The organisation of learning schools is also more likely to facilitate teachers being able to share knowledge after some training.

Given these characteristics one can say that learning schools are probably good places for teachers to work. Other findings from the survey confirm this. Teachers who believe they work in a well-functioning organisation with a high degree of learning pressure are less likely to consider leaving their job than teachers who work in schools that are non-learning schools. Even though the level of ambition is higher and the teachers draw more on each other's competence in their everyday work, these teachers experience no more stress than other teachers.

Developing more learning organisations is not necessarily a goal in itself. We therefore wanted to find out whether learning schools manage to impart more to their pupils than schools that do not function as learning organisations. The analysis shows that this is the case:

- Learning schools are more successful vis-à-vis the pupils' academic progress in the first year of upper secondary education. The grades they left compulsory education with were compared with their grades after the first basic course in the following five subjects: Norwegian, English, mathematics, natural science and physical education.
- The pupils at learning schools state that their learning processes are of higher quality. The analysis is based on data from "The pupil inspectors" relating to, among other things, their own motivation, the quality of the interaction between teachers and pupils, and the use of various methods of working during the teaching.
- The pupils at learning schools state that the atmosphere in the school is good with little bullying and disruption. This analysis was also based on data from "The pupil inspectors" for the participating schools.

Before looking at the individual findings in the survey we want to talk a bit about how one should understand the methodology and the findings, and, and how an individual school can use the results as a basis for discussions about its own development.

## Understanding and using the results of the survey

In the theory section we saw that the authors highlight a number of qualities that characterise learning organisations. Some of these characteristics are quite abstract and can be difficult to differentiate between. There is not one way, one activity or one specific method of organising organisations that differentiates learning organisations from other organisations. The questions in the survey were therefore formulated with the aim of capturing many different aspects of learning organisations. This means we asked questions concerning:

- participation in courses, continued education, development work, projects and so on
- the degree of interaction and opportunities for learning from colleagues during everyday work
- the assessment of cohesion and practical organisation at the school
- the assessment of one's own role in the organisation and degree of influence
- the assessment of the strong and weak sides of the school's management
- the assessment of the level of ambition in the teaching faculty at the school

The answers from the teachers and school managers were analysed using correspondence analysis. This method reduces a complex set of data into a few dimensions which explain much of the variation in the answers. This makes it possible to investigate the correspondence between many different questions at the same time<sup>7</sup>.

The analysis by The Learning Lab shows a single primary pattern in the set of data from the schools. The data order themselves along two axes that form a *correspondence graph*:

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<sup>7</sup> A more detailed presentation of the method and the survey's findings will be published by The Learning Lab during the spring of 2005, a preliminary presentation of the entire survey is available at: [www.laringslaben.no](http://www.laringslaben.no).

***The main learning schools graph should be read as follows:***

The two axes from the correspondence analysis form a *graph*. A school is defined as learning if it scores positively on both axes. In other words the learning schools can be found in the upper right hand corner of this graph. This part of the graph is marked with a ++ and this is the direction in which one must move to become more of a learning school in relation to the findings from the survey.

In practice the two axes represent two slightly different development areas a schools can work on to become more of a learning organisation. One can increase the level of ambition and the learning pressure in the organisation, but one can also work on creating a more well-functioning organisation. Both a high level of learning pressure and good organising conditions are required to produce good results. The development strategy chosen by an individual will depend on what the organisation already masters well and less well.

Axis 1, the horizontal axis, is called *learning pressure* since the questions that make up this axis deal with level of ambitions and the shared expectations of the teaching faculty about what one should achieve,

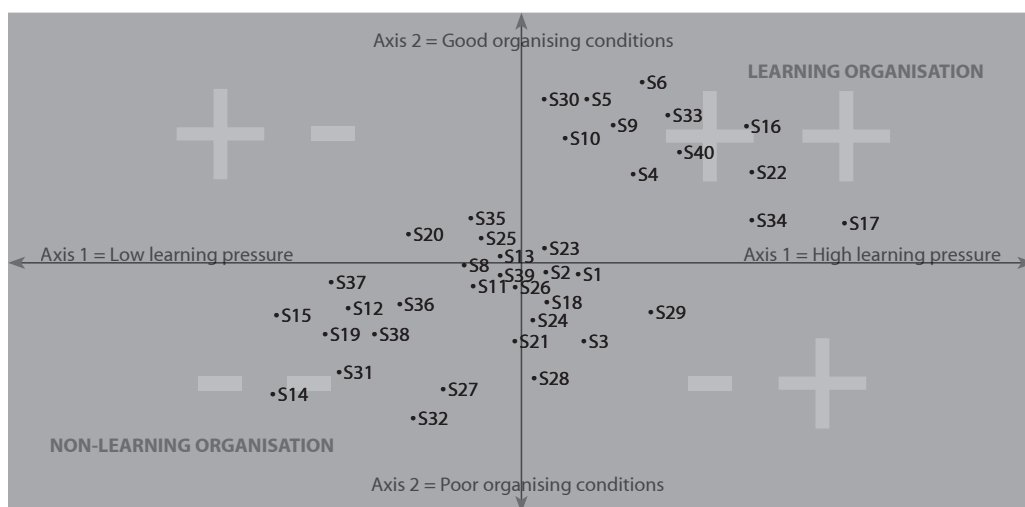
Axis 2, the vertical axis, is called *organising conditions* since the questions that make up this axis deal with the extent to which the teachers think that the school organises the work in an appropriate manner, and that they are part of a team.

The dots located on the graph represent the schools in the survey. The further to the right on the graph a school is located, the higher the school scores on learning pressure. The further up in the graph the school is located, the higher the scores on organising conditions.

Schools that score high on both organising conditions and learning pressure are called learning schools. A learning school thus has both a well-functioning organisation level and high expectations and ambitions in the teaching faculty vis-à-vis how the school is going to perform. School 16 on the graph is one example of such a school. Some of the learning schools are stronger with respect to organising conditions than learning pressure, e.g. school 30 and school 5, while the opposite is true for school 17.

Schools that score poorly on the two axes are called non-learning schools: these are neither organised in a manner that encourages learning among the personnel nor do they have high ambitions and expectations in the teaching faculty. School 14 is one example of such a school.

When a school is placed in near to the middle of the graph this may mean that all the teachers in the school describe the conditions at the school as average or that the school has two groups of teachers with different perceptions of condi-



Graph 1: The schools' locations on the base graph

tions at the school. The analysis of the data indicates that schools located in the middle of the charity often have two camps of teachers who perceive the conditions at the school somewhat differently. It is not the case that the perception of the conditions at the school can be explained on the basis of gender, age or length of time one has worked at the school. This means for example that having a large number of teachers over the age of 50 does not have an effect on whether or not the school is a learning school. On other hand, we find the managers to a greater degree than other respondents perceive the level of expectations in the school's teaching faculty to be high.

In this survey we have sought variation. The graph shows that 12 schools in this survey are learning schools, 10 are non-learning schools, while around half are neither one nor the other. Due to the selection method this finding cannot be generally applied to all upper secondary schools in Norway. The middle category would probably be greater if one looked at randomly selected schools.

### What does having high learning pressure and good organising conditions mean?

The base graph with the two axes shows a primary pattern in the data. In order to assess from where a specific school has to start in order to move upwards to the right one has to know what lies behind the terms learning pressure and organising conditions.

Each axis in the graph is made up of several dimensions or groups of questions that emerge from the analysis of the teachers' responses. The researchers assess which questions are closely related and which are not before they examine whether the responses to various questions correlate statistically. There is a sta-

tistical correlation between the questions if one group of respondents answers all the questions positively, while another group answers all the questions negatively. A set of questions that correlates like this is called a factor.

In the first stage of the analysis we found a series of such factors. A question can only form part of one factor.

The two axes in the main graph are formed by looking at which of the factors correlate. The group of factors that correlate best forms the first axis on the graph, i.e. the horizontal axis. The group of factors that correlate next best form the second axis on the graph, the vertical one. Axis 1, learning pressure, explains more about the variation in the material than axis 2.

In the second stage of the analysis a correspondence analysis graph is drawn with the two axes. Factors and individual questions that are *not* included in either of the axes are called secondary variables. These are typically used in further analysis of the data and are often viewed in relation to the structures in the main graph.

### **The emergence of factors – two examples**

The questionnaire contains a series of questions that were formulated with the aim of capturing the collective ambitions the teaching faculty has, the degree of cooperation, learning, management and other organising factors. The analysis shows that some of the questions correlate statistically. Below you will find two examples:

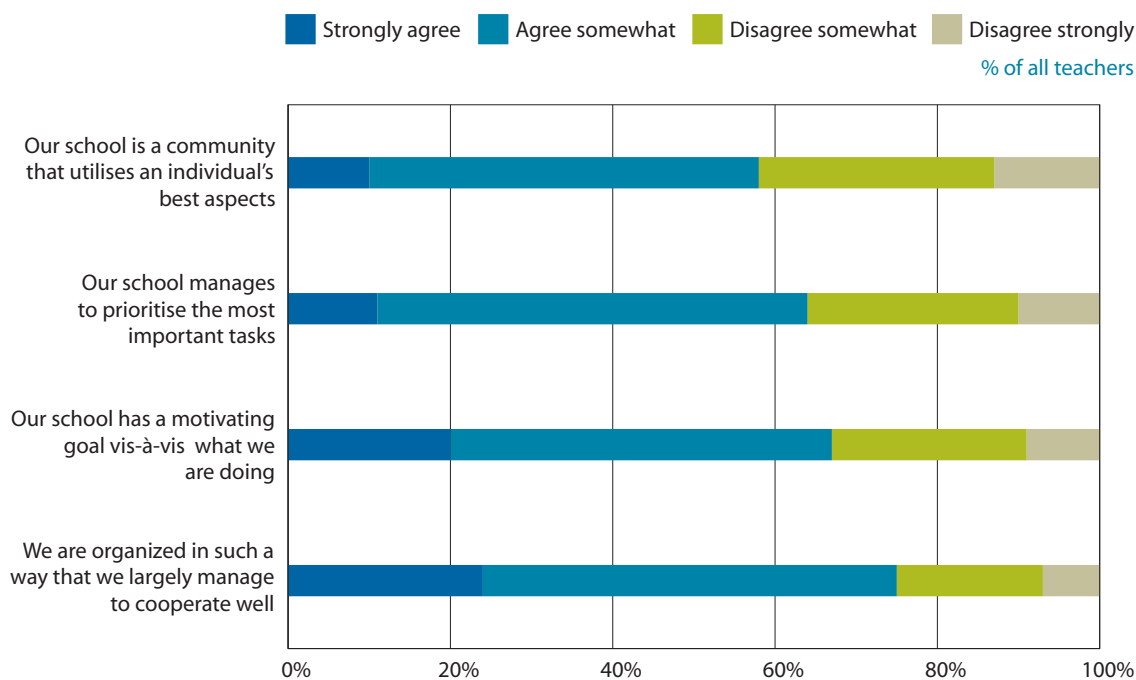
The analysis shows that even if a few more teachers believe their school is well organised than believe that it manages to prioritise the most important tasks, it is largely the *same people* who agree or disagree with the various statements.

This group of questions therefore make up a factor. A positive score on this factor means that the staff feel they belong to a meaningful and well-functioning community. The factor has therefore been named *organised community*.

In the same way we have found that the answers to the questions in the graph next correlate statistically. This factor was named *pressure for reflection and renewal* because a positive score for this factor implies that the teaching faculty has a high level of expectations vis-à-vis reflecting on one's own practices, experimenting and trying out new teaching methods together.

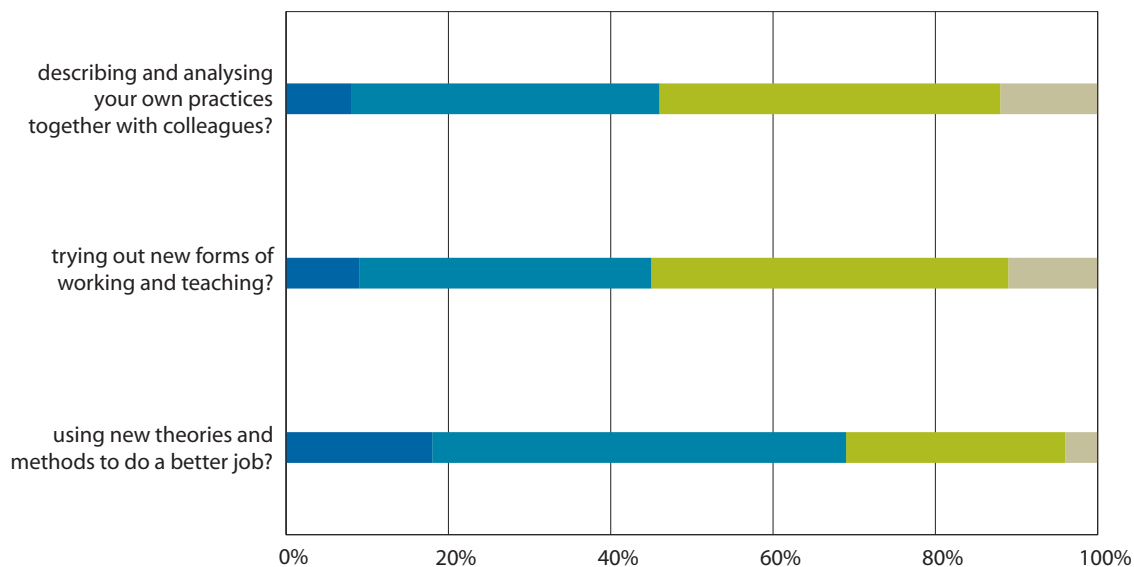
By examining which questions grouped together and explain much of the variation in the material a series of such factors emerged.

## The emergence of factors – two examples (continued)



### How great are the expectations in the teaching faculty vis-à-vis you

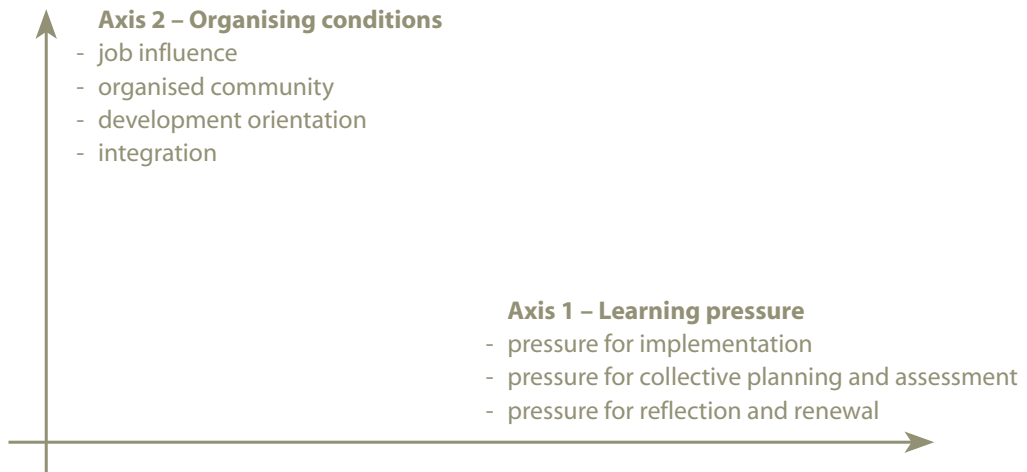
% of all teachers



## Step 2 of the analysis – the emergence of the axes

In step 2 of the analysis we examined whether or not there was a statistical correlation between some of the factors. The first and strongest of the axes was formed by three factors with a strong correlation. Since all three factors contained questions about the teaching faculty's level of ambition and shared expectations the horizontal axis was named *learning pressure*.

The second axis was formed by four other factors that formed a group. Since the questions that make up these four factors all dealt with conditions in the schools and the individual's sense of belonging and influence in his or her own organisation the vertical axis was named *organising conditions*.





The tables on the next pages show the key questions from all 7 factors.

The key questions explain much of the variation in the material and provide a more concrete picture of each factor.

The order of the questions is no accident. This was determined on the basis of how large a proportion of the respondents in the survey answered positively. They are in descending order. In other words, the first question under every factor has the largest number of respondents who agree with the statement or have high expectations, while the last key question in each factor has the lowest proportion of respondents who agree or have high expectations.

Example: under the factor “collective planning and assessment” there are 3 key questions that explain much of the variation in the data. Among the schools in this survey almost 7 out of 10 teachers state that high expectations exist vis-à-vis using the pupils’ results in planning the teaching (question 4), just over half state that high expectations exist vis-à-vis planning and implementing the teaching together (questions 5 and 6), while only 4 out of 10 believe high expectation exists vis-à-vis assessing the teaching together (question 7).

## Learning pressure

### *Key questions in the factor*

*Pressure for implementation*

How great are the teaching faculty's expectations vis-à-vis you:

1. using all your relevant competence to carry out your work tasks
2. carrying out tasks even if you do not have the prerequisites for doing so with a high degree of quality
3. adapting teaching to the pupils' abilities and aptitudes

*Pressure for collective planning and assessment*

How great are the teaching faculty's expectations vis-à-vis you:

4. using results linked to the benefit the pupils get from learning when planning teaching
5. planning teaching together with others
6. carry out teaching together with others
7. assessing the teaching together with others

*Pressure for reflection and renewal*

How great are the teaching faculty's expectations vis-à-vis you:

8. using new theories and methods to do a better job
9. trying out new forms of working and teaching
10. describing and analysing your own practices together with colleagues

### *About the factor*

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High expectations regarding all the questions mean that the teaching faculty focuses on tackling its tasks. Most respondents in the survey state that there are high or quite high expectations regarding implementation.

Learning schools are characterised by a high level of pressure for implementation, i.e. there is a high level of expectation that colleagues will endeavour to do as good a job as possible.

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High expectations regarding all the questions mean that the teaching faculty has a balance between the implementation, evaluation and planning of the work, and that there is an opportunity for continuous double-loop learning. It is most common to have high expectations that one will use the pupils' results in planning, while there are lower expectations vis-à-vis assessing the teaching together.

Learning schools are characterised by the fact that there are high expectations vis-à-vis systematic work before, during and after the teaching.

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High expectations regarding all the questions in this factor mean that the teaching faculty has a balance between theory and practice in the job of preparing the teaching.

It is most common to use new theories to improve the teaching, while it is less common to try out new working methods and analyse practices with colleagues.

Learning schools are characterised by the fact that there are high expectations vis-à-vis one reflecting on one's practices, experimenting and staying up-to-date with respect to theories and methodologies.

## Organising conditions

### *Key questions in the factor*

*Job influence*

- How great an influence do you have on:
1. how tasks will be carried out
  2. which task you have
  3. the size of your workload
  4. what quality standards the school has

*Organised community*

- To what extent would you agree or disagree with the following statements:
5. We are organized in such a way that we largely manage to cooperate well
  6. Our school has a motivating goal vis-à-vis what we are doing
  7. Our school manages to prioritise the most important tasks
  8. Our school is a community that utilises an individual's best aspects

*Development oriented*

- To what extent would you agree or disagree with the following statements:
9. At our school we think ahead
  10. At our school we use knowledge about the pupils' achieved results in our teaching.
  11. Undertaking to tackle difficult tasks results in acknowledgement.
  12. The schools has made structural changes to facilitate more cooperation and learning from colleagues.

*Integration*

- To what extent would you agree or disagree with the following statements:
13. It is (not) difficult to gain approval to try out new ways of working.
  14. It is (un)usual to be flippant about the contents of the organisation's plan.
  15. You (do not) have to work at the school for many years before you gain some influence over the decision that are taken.
  16. At our school we (do not) have a culture in which people can do as they wish.

### *About the factor*

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In the selected schools it appears that most of the teachers have the elbowroom to do their jobs. Most state that they have a lot or quite a lot of say vis-à-vis how tasks are going to be carried out, and which tasks they are assigned. The teachers state that they have less say about the standards for the entire organisation.

Learning schools are characterised by staff being involved to a large degree in important matters vis-à-vis their working situation and the school.

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Positive responses to all the questions means that there is a good basis for the organisation, through clear, collective goals and good organisation, getting more out of the staff's competence than the sum of the parts.

Most say they agree or agree somewhat that the way they are organised facilitates cooperation, while fewer say they agree that there is a community in which everyone utilises their best aspects.

Learning schools are characterised by staff feeling they belong to a meaningful and functioning community.

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Positive responses to all the questions means that the structure (organisation and what is rewarded) and the culture of the organisation pull in the same direction. Learning schools are characterised by being future oriented and development oriented both in the way they think and in the purely practical work with the pupils.

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In schools with a culture where people do as they wish it is also difficult to try out new things and it is normal to be flippant about what the school wants to achieve. The teaching faculty in some schools also has an atmosphere of flippancy and ironic distance. In such schools the ceiling appears high, but in practice the individual teachers experience that it is quite difficult to take the initiative and gain influence in the organisation.

Learning schools are characterised by the absence of a culture in which people can do as they wish.

In The Learning Lab's survey the various schools are categorised based on how the teachers answered the questionnaire. However, the results from the survey can also be used more qualitatively as a starting point for discussions and reflection among the teachers and managers in the individual schools. In order to use the graph as a starting point for assessing strong and weak aspects of one's own organisation, one needs to look at which key questions form the various factors.

The axes, factors and concrete questions illustrate important characteristics of learning schools at varying degrees of detail. Individual questions point to factors that it might be of benefit for the teaching faculty to discuss among itself. At the same time however it is important not to lose sight of the big picture. The purpose of the graph is precisely to contribute to one also obtaining a more holistic assessment of the school's strong and weak aspects: do we need to work on learning pressure most and less on organising conditions, or on both? Is there little pressure for reflection and renewal, or is it our implementation capacity that is too poor? Where do we believe the greatest potential for improvement lies if we want to become more of a learning organisation?

The graph sums the most important dimensions of learning organisations. In the survey we also asked about a series of other factors such as everyday learning, skills development, management and the teachers' working conditions. We will now look more closely at these findings.

### **Everyday learning**

Learning schools stand out from non-learning schools by scoring well on the two main axes. Many of the questions that form the main graph deal with staff cooperation, expectations vis-à-vis using each other competence and other organising conditions that are important vis-à-vis learning from each other in everyday work. In the survey the teachers also answered questions about specific activities that provide an indication of the extent of everyday learning in the organisation. Naturally enough, the answers to these questions closely correlate with both axes in the graph<sup>8</sup>. Nonetheless, since everyday learning is a key term it may be useful to see how widespread these activities are in the various types of school in the survey. The respondents were divided into three groups based on whether they work at learning schools, average learning schools or non-learning schools (see graph 1).

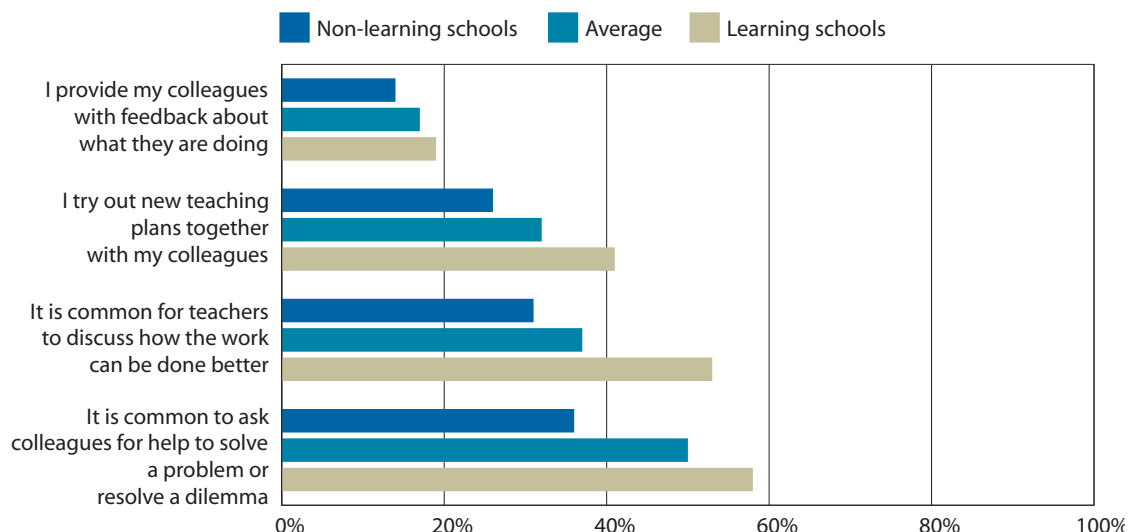
Not surprisingly we find that teachers at learning schools score higher on the questions about everyday learning. It is much more common for staff at learning schools to work together and ask each other for help than at non-learning schools. These can be regarded as necessary prerequisites for everyday learning. There is also a difference between learning schools and the other types of schools

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<sup>8</sup> Everyday learning correlates with both axes in the main graph. Everyday learning was defined as a main factor in the principal component analysis and thus helps to define learning schools.

## Everyday learning

strongly agree with the statements, % of teachers



when one looks at small step improvements. Discussing how the job can be done better and trying out new teaching plans with colleagues are much more common at learning schools. Even though teachers at learning schools are slightly more likely than other teachers to state that they provide each other with feedback, we must conclude that learning schools also appear to have a weak culture when it comes to providing each other with feedback.

These differences are not surprising given that everyday learning is also encompassed by the factors that defined learning schools in the main graph. We shall now look at the teachers' responses to questions dealing with factors that are completely different to the ones we have discussed so far in order to examine whether the practices at learning schools are different to those at average and non-learning schools.

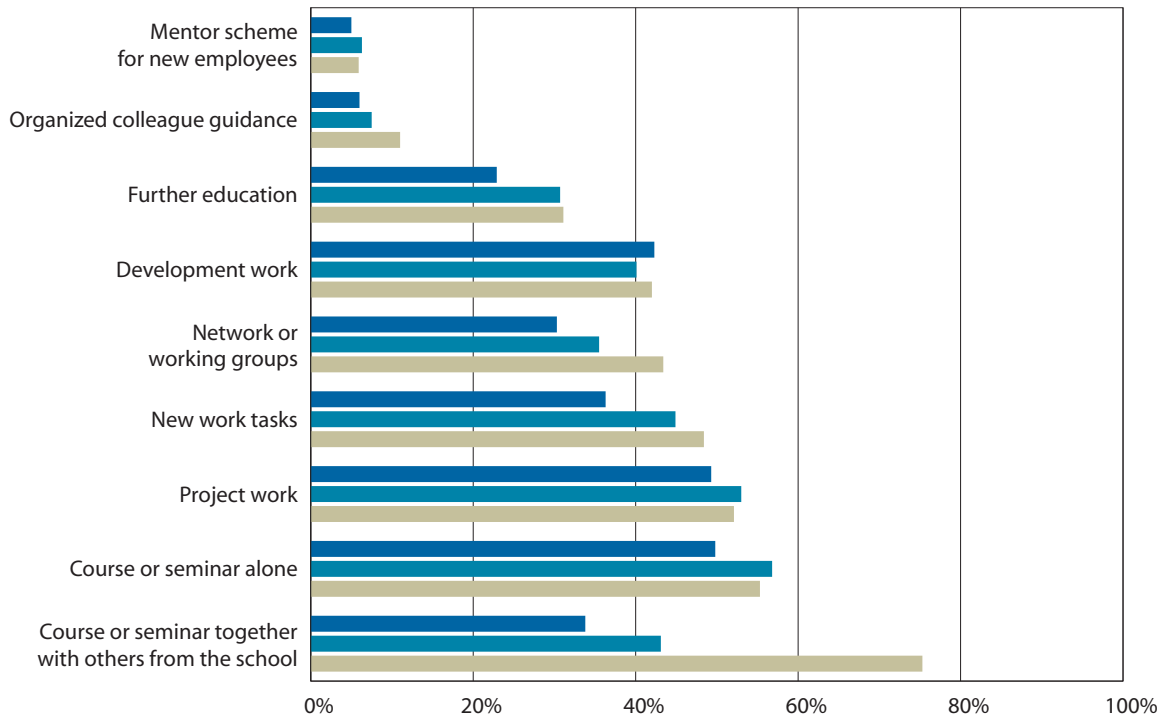
### Skills development at learning schools

The teachers were asked about their participation in various activities during the previous year and whether they have acquired knowledge through these activities that could be utilised in their work. In the graph below the respondents have been divided in categories based on whether they work in a learning, average or non-learning schools.

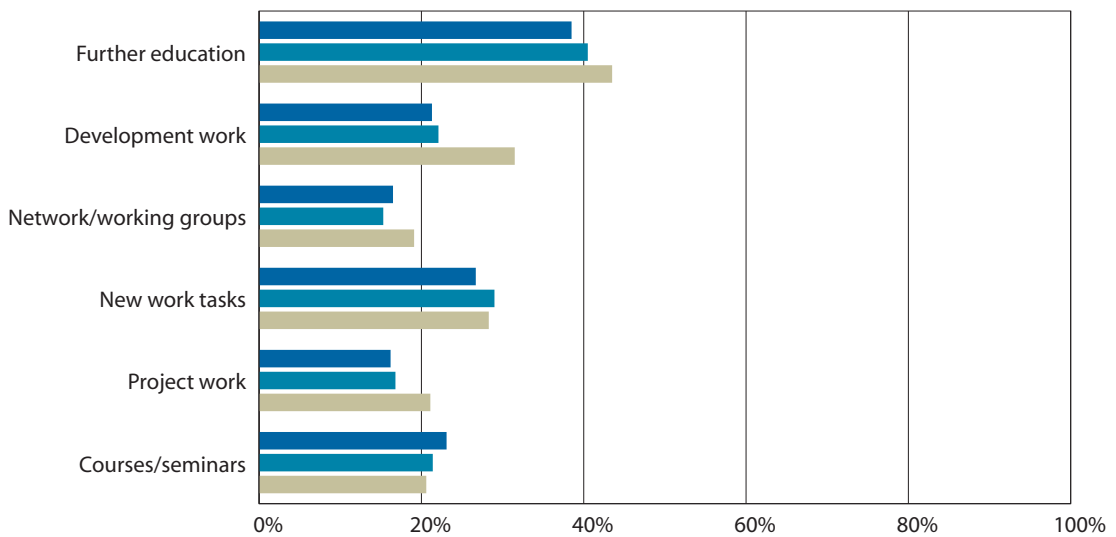
Courses and seminars are the most commonly used form of skills development at the schools in the survey, while few teachers participate in mentor schemes and organised colleague guidance. The figures show that project work and development work are also widespread. There are no major differences be-

■ Non-learning schools ■ Average ■ Learning schools

**Participation in various learning activities during the previous year**  
% of teachers



**Activity has to a great extent provided knowledge that can be applied in my everyday work**  
% of teachers who have participated in the various activities



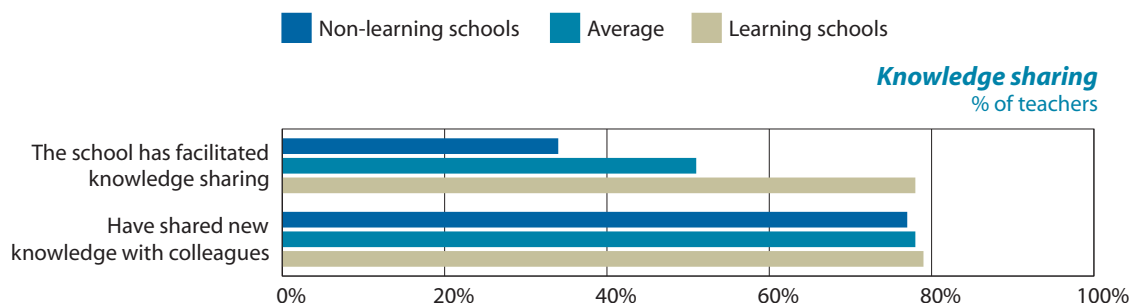


tween learning and non-learning schools here. For example, just as much development work takes place at non-learning schools. Staff at learning schools stand out in that they are far more likely to go on courses together than others. They are also more likely to have been assigned new work tasks and have participated in work groups or networks. We also found that staff at non-learning schools participate in slightly less further education than others.

The teachers who participated in the various learning activities were asked whether they had acquired knowledge that could be used in their work.

Most of the teachers in the survey state that they have benefited from further education. This is unsurprising since this is the activity that requires the greatest investment in terms of both time and money. It is worth noticing that short-term courses and seminars, which also have teaching as their main aim, are not regarded as more relevant than other activities. For example, more people say they have acquired knowledge they can use in their work through the assignment of new work tasks than through participation in courses and seminars. There are small differences between the various schools throughout. One exception is the benefit from development work. In the previous graph we found that development work is equally widespread in all types of schools, but it appears as though staff at learning schools get more out of such work.

In addition to the fact that they acquire knowledge that can be used in their work, the organisation can get more out of investments in training activities if the knowledge is passed on to more people. The teachers were asked whether or not they have shared their knowledge after the training activities and whether or not the organisation they work in had facilitated this.



The majority of teachers in the surveyed schools had shared their knowledge with colleagues after participating in learning activities. Sharing new knowledge is something that everyone does. The question is how and how many we share our knowledge with, and whether or not the organisation does anything to reinforce the natural knowledge sharing that takes places anyway after participation

in learning activities. We find the learning schools are far more likely to facilitate the sharing of knowledge.

Learning schools stand out in that the teachers are more likely to attend courses together and that the schools facilitate knowledge sharing after such activities to a greater degree. We also know that learning schools are characterised by more everyday learning. However, it does not appear that the everyday learning takes place at the expense of participation in courses and further education. It also appears that learning schools may get more out of development work than non-learning schools.

### **Management at learning schools**

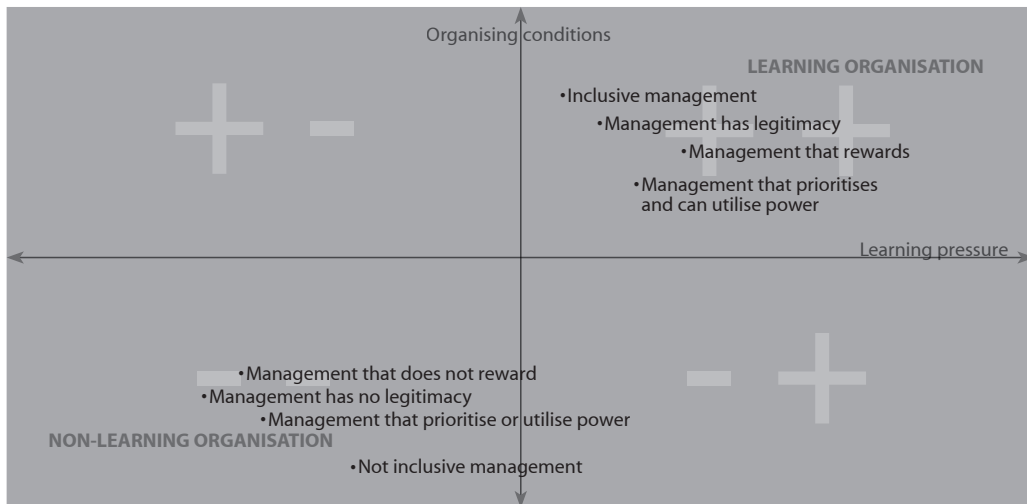
We will now look at whether or not staff at learning schools perceive the management differently to teachers at other schools.

Based on the material in the survey we have identified several factors that encompass various aspects of management:

1. *Rewarding management*: the management rewards staff when they have done a good job and use many different forms of reward such as praise, earned free time, pay and so on.
2. *Management with legitimacy*: the management carries out development that is close to the practices and realistic in which the initiatives taken are perceived as being well founded. Examples of questions in this factors are: “When the managers have been on a course, do they often come back with ideas that cannot function in practice?” and “I often feel that we make changes just because it is important to change”.
3. *Inclusive management*: the managers involve the teachers in development processes, the staff’s contributions are taken seriously and there is a generally good relationship between the teachers and the management. Examples of questions are: “The school’s management are good at keeping everyone informed about development work and changes at the school” and “The management are interested in the teachers’ professional development”.
4. *Management that prioritises and can use power*: the management does not shy away from taking decisions on behalf of the organisation and ensures that skills development is based on the organisation’s needs and not just on the individual teacher’s wishes. Examples of questions: “The school’s management are good at implementing adopted changes” and “The school’s management are good at not prevaricating and taking unpopular decisions when necessary”.

In graph 2 we examine how management factors correlate with the operationalisation of learning schools.

The graph shows that teachers who experience a high degree of learning pressure and good organising conditions assess all aspects of management more positively than other teachers. Non-learning schools are characterised by scoring



Graph 2: correlation between organising conditions, learning pressure and various aspects of management.

negatively on the management variables. The absolute strongest is the perception of a lack of legitimacy in the management, but also that the management doesn't manage to prioritise or implement things when they do take the initiative.

Inclusive and legitimate management is stronger in schools with good organising conditions. This is not surprising given that organising conditions are all about involving staff in the team and in the school's development. Managers who can prioritise are more common in schools with high learning pressure.

Learning schools are especially characterised by management that rewards its staff; this factor correlates equally with both axes. The graph below shows how teachers at the various types of schools score on the questions about rewarding management.

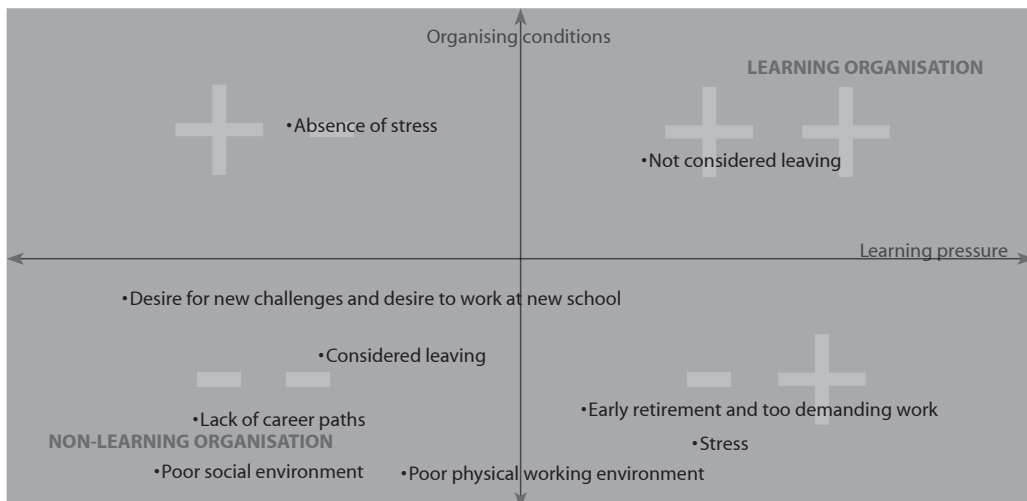
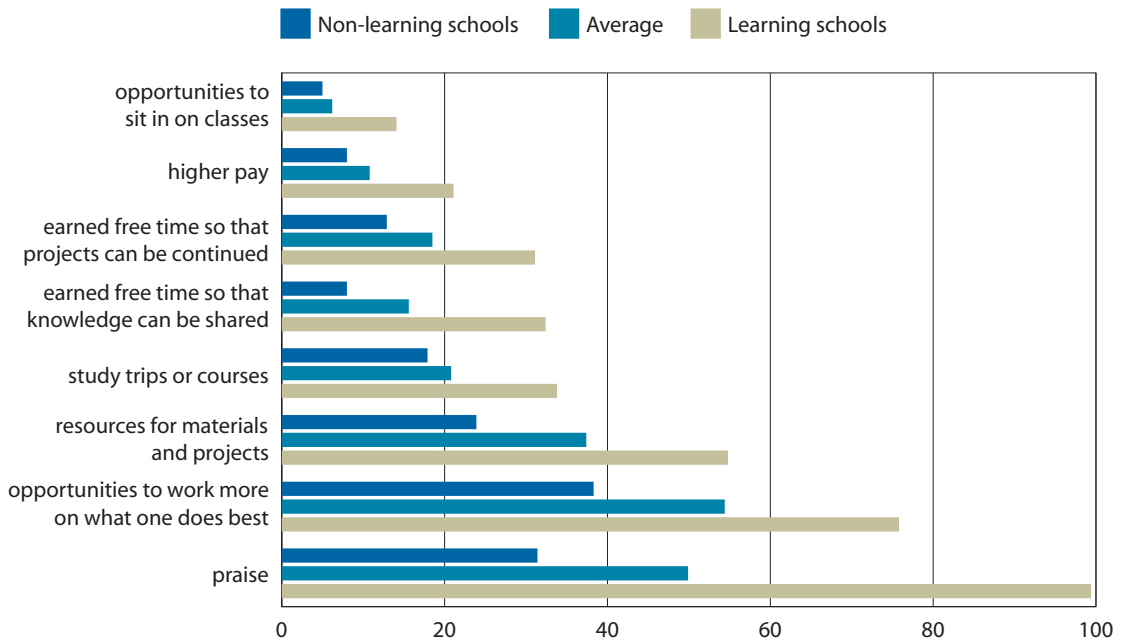
We find that it is more common for the management of learning schools to use all forms of rewards. Almost all of the teachers at learning schools state that it is more common to receive praise when one has done a good job, while it may appear that the management at less learning schools are less generous with their praise. The figures all indicate that the management at learning schools are more inventive when it comes to rewarding proficiency.

### Are learning schools better places to work for teachers?

Staff who perceive themselves to be important and recognised contributors to a well-functioning organisation are important to making an organisation work. This is one of the criteria for being categorised as a learning organisation. As in other sectors, it is also important for schools to be perceived as good places to work so that they can attract and keep good staff. We will now look more closely at other

### Rewarding of well executed work

It is very or quite common for the management to give/provide:  
% of teachers



Graph 3: correlation between organising conditions, learning pressure, reasons to quit and stress

factors associated with the working conditions of teachers to see whether or not learning schools stand out from other schools.

The surveys analyses stress and whether the teachers have considered leaving their jobs, and if so why. A person wanting to leave their job does not necessarily indicate a problem. We must therefore look more closely at the reasons why people want to leave.

Around 40 per cent of the teachers in the survey state that they have considered leaving their job. The most important reasons for teachers having considered leaving their job are the desire for new challenges, a desire to try another occupation or that the work is too demanding. Next come the lack of career paths, better pay other places and early retirement. Few teachers state that a poor working environment, a desire for more status or a desire to work at another school are reasons for leaving. The graph below shows the correlation between the reasons to leave and the scores on the two axes.

The graph shows that teachers who have considered leaving their jobs work in schools with poor organising conditions and low learning pressure. We found that the teachers who want to leave to find new challenges are more likely to perceive the learning pressure as low, i.e. the teaching faculty has low expectations vis-à-vis using each other's competence and continuously improving the teaching. As stated above, people wanting new challenges is not a bad thing, but when this is associated with the fact that teachers are not being challenged by their colleagues in their everyday work, there is reason to pay attention to the problem. A few teachers also state that they want to work at another school. They also perceive the learning pressure as low.

Teachers who have considered leaving because the work is too demanding or because of early retirement, are more likely than others to perceive a combination of poor organising conditions and high learning pressure. High expectations vis-à-vis the entire teaching faculty offering the best possible teaching, combined with poor opportunities to cooperate and influence the way one does things can lead to frustration and a high level of pressure on the individual. We have previously mentioned that the profession of teaching is a demanding one. It appears that there may be good reason to develop a well-functioning organisation where the staff can support each other in a community both when it comes to professional development and various dilemmas and problems experienced in their everyday work.

The survey has also analysed the relationship between stress and workload. Examples of questions associated with this factor are: "It feels as though I never have time to do my job" and "I worry a lot about work when I am not at work".

The graph shows that those who experience stress also experience poor organising conditions and more learning pressure than those who do not experience stress. This is the same combination that characterises those who are considering leaving because the work is too demanding. Good organising conditions appear to be very significant. Not surprisingly those teachers who do not experi-

ence stress feel the organisation works okay, while at the same time expectations in the teaching faculty are low.

It is worth noting that working in a learning organisation does not appear to be associated with more pressure. Teachers in learning schools do not score higher on questions about stress and workload.

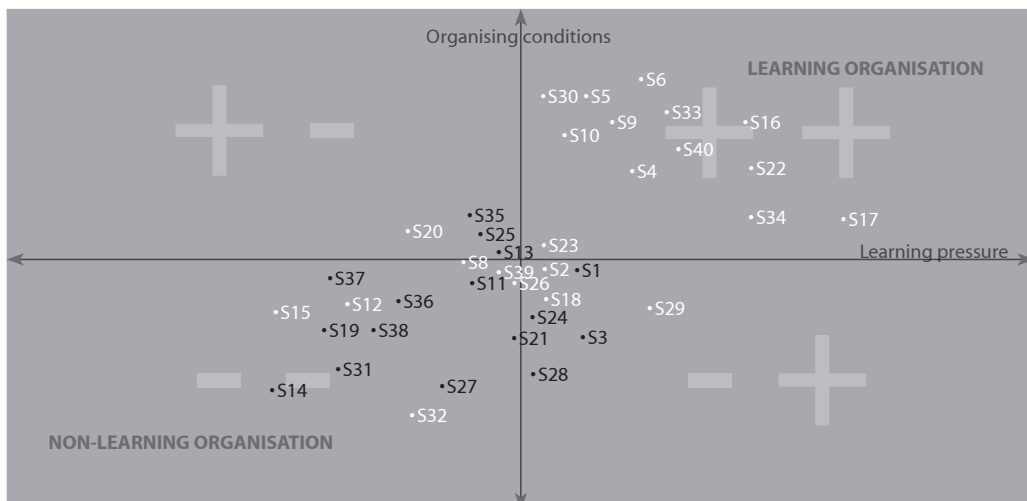
### Do learning schools provide a good environment for pupils?

The main job of schools is to provide pupils with an education, but another of their goals is that they should be good places for pupils to be. We use data from “The pupil inspectors” to look at whether pupils regard the environment in their schools as good or bad. “The pupil inspectors” is a web based questionnaire in which pupils can give their opinions about conditions that are important vis-à-vis learning and flourishing in school. All upper secondary schools must conduct pupil assessments.

The result indicator for the environment includes the following assessment areas: bullying, discrimination, well-being and disruption. The pupils’ assessments of these factors are combined into a general score for the environment at the school.

The graph shows the school’s location on the two axes. The schools are divided into two groups according to whether the pupils state the good environment is good (blue) or below average (red).

All of the learning schools in the survey have pupils who are flourishing better and being bullied less than the average pupil on a basic course in Norway. Three of the non-learning schools also score positively on the question of environ-



Graph 4: Correlation between organising conditions, learning pressure, and pupils’ assessment of the environment in their school

ment. This is no unequivocal correlation, but the analysis shows that there is a significant correlation<sup>9</sup>.

Analysis by The Learning Lab shows that good organising conditions are the most important factor for the pupils' environment. Integration is in particular an important factor that correlates with a good environment. At schools where the pupils experience a good environment, the teachers state that they:

- feel that they can contribute to the organisation
- can take the initiative and influence decisions
- do not perceive it to be a culture where people can do what they want

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<sup>9</sup> The correlations with the main factors vary from 0.24 to 0.52 (Pearson's R)

### Do learning schools provide pupils with good quality learning processes?

One of the most important jobs of a school is to create a good basis for lifelong learning. This involves all pupils mastering various strategies for learning and knowledge acquisition, and the schools contributing to the pupils having a positive attitude towards learning.

We again use data from “The pupil inspectors”. The result indicator for the quality of the learning processes includes the following assessment areas: motivation, pupil participation, cooperation between teachers and pupils, and the use and assessment of various work methods. This total score indicates the extent to which the pupils perceive the learning processes at the schools as motivating and characterised by good quality.



Graph 5: Correlation between organising conditions, learning pressure, and good learning processes for pupils

The graph shows a school's location on the two axes. The schools are divided into two groups depending on whether the pupils say the quality of the learning processes are above average (blue) or below average (red).

At most schools in the survey the pupils on the basic course say they are motivated and the learning processes are of good quality. None of the non-learning schools in the survey score above the national average on the indicator for good learning processes. The analysis also shows that this is a strong finding<sup>10</sup>.

<sup>10</sup> The correlations with the main factors vary from 0.36 to 0.70 (Pearson's R).



The analysis shows that a high level of learning pressure is the most important factor vis-à-vis pupils' learning processes. Pressure for reflection and renewal is the strongest factor. The pupils perceive the learning processes as good at schools where the teachers say the teaching faculty has high expectations of everyone:

- describing and analysing their own practices
- providing colleagues with feedback
- employing new theories to do the job better
- trying out new ways of working

### **Do pupils at learning schools progress well academically?**

Ensuring academic insight and development is the most important job of the upper secondary schools. We use data about *grade development* as an indication of whether or not the school is contributing to the academic development of its pupils. The fact that pupils get better grades from one year to the next does not provide a complete picture of the academic development of the pupils. Schools impart many different skills to pupils, and many of these are difficult to measure. As our starting point we use the idea that the grade expresses the pupils' level of proficiency in a subject, and that better grades indicate that a school has managed to contribute more knowledge. We do not use data about the level of grades since the levels of grades for individual pupils or a group of pupils will be influenced by the pupils' social backgrounds.

The result indicator for *academic development* is based on statistics (individual data) from the pupils' final grades from compulsory schooling (2003) and the grades the same pupils earned at the end of the basic course (2004). The statistics cover the subjects of Norwegian, English, mathematics, natural science and physical education. The pupils' grades from the end of their basic course are compared with their final grades from their compulsory schooling for pupils in the schools in the survey. In the case of pupils who have taken exams, the average of the assessment grade and the exam grade is used. These grade development data are used as an indicator of the pupils' academic progress during their first year of upper secondary school.

The schools have been categorised into three groups depending on whether the pupils' grades have fallen, remained stable or improved.



Graph 6: Correlation between organising conditions, learning pressure and grade development

The graph shows the schools' locations on the two axes. The schools where the grades of pupils have on average developed positively are in blue (e.g. S16), the schools where grades have remained stable are in black (e.g. S23), and the schools where schools have developed negatively are in red (e.g. S14). It was not possible to calculate the development of the grades of pupils in eight schools in the selection, two of these were learning schools, two were non-learning schools and four were average schools.

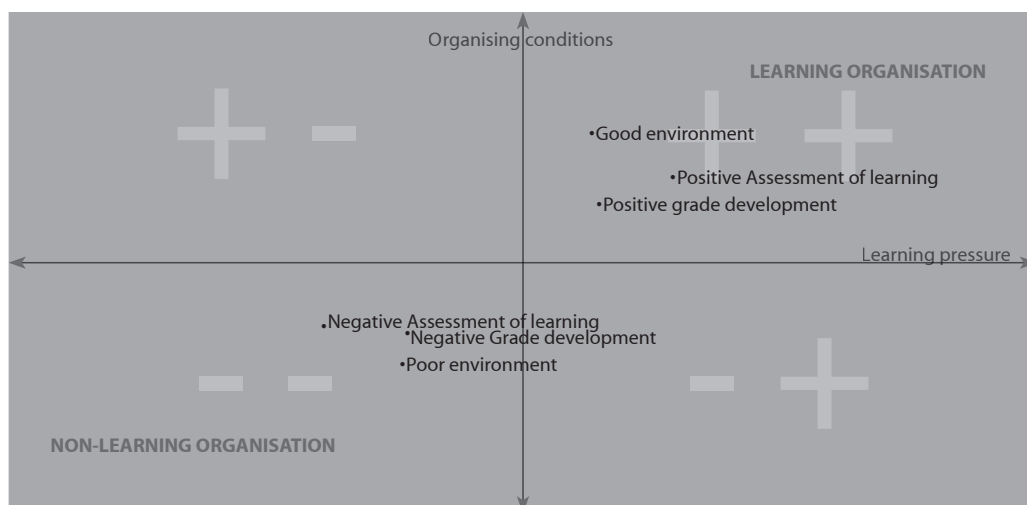
A majority of the learning schools have experience positive development in grades; while in the quadrant for non-learning organisations a majority of the schools have experienced a negative development.

Two of the learning schools and one of the non-learning schools have experienced a negative and positive development in grades respectively. In other words there is no unequivocal correlation, but the analysis indicates that this is a strong finding<sup>11</sup>.

Analysis by The Learning Lab shows that high learning pressure is the most important factor for the learning. Pressure for planning and assessment is the strongest. Schools in which pupils experience positive grade development during the first year have teachers that say the teaching faculty has high expectations that everyone:

- will use results linked to the benefit pupils get from the learning in the planning of the teaching
- plan the teaching together with others
- implement the teaching together with others
- assess the teaching together with others

<sup>11</sup> The correlations with the main factors vary from 0.42 to 0.55 (Pearson's R).



Graph 7: Correlation between organising conditions, learning pressure, grade development, environment and assessment of learning processes.

### Why are learning school better for pupils?

The main findings from the survey are summed up in graph 7.

The survey shows that the correlation between good organising conditions, high ambition levels and interaction between the teaching faculty on the one hand and the pupils' learning and learning environment on the other. The graph shows that a high level of learning pressure among colleagues and managers at the school is the most important factor vis-à-vis pupils' perception of the environment at the school.

Based on this survey it appears that schools where teachers have high expectations of each other may have a greater chance of imparting a lot of learning to the pupils than other schools. Schools with weak organising conditions and little sense of community in the teaching faculty appear to have problems when it comes to offering pupils a good learning environment. However, we know little about how this hangs together and how improvements in one or more characteristics of an organisation may influence the learning environment and the pupils' academic development.

- Is it the case that high expectations vis-à-vis one taking a collective responsibility for making the teaching as best as possible results in teachers learning from each other and thus becoming better teachers?
- Could closer and more informal cooperation make it easier for teachers to divide up tasks between themselves so that the individual teacher can do fewer of the things he or she is not very good at and more of the tasks that he or she masters well?
- Does a positive culture and atmosphere in the adult environment at the school influence the pupils' social interaction with each other?

- Is it easier to achieve better interaction between pupils and teachers if the organisation has a culture and an organisation that encourages interaction among teachers as well?
- Is it the case that a high level of ambition in the teaching faculty influences the teachers' expectations vis-à-vis the pupils, and the pupils' expectation vis-à-vis themselves?

The survey suggests that pupils at learning schools learn more and experience a better environment. Becoming a learning organisation requires systematic work over time. However, it also appears that the schools (and the pupils!) gain something in return for their efforts. Meanwhile, this survey says nothing about how one should specifically proceed to develop at an organisational level. We have therefore spoken to people at a number of schools about how the development work in their organisation occurs in practice.

## Section 3

# Qualitative



### **Pattern breakers: what can we learn from development oriented schools?**

Many schools in Norway have been successful with their development work. We call these pattern breakers, not because they have necessarily done “everything right”, but because they have managed to break with a fixed pattern. These schools often have experiences and knowledge that others can benefit from. As we shall see they also represent positive voices that can inspire others to develop further. Studying such “positive deviants” (Dutton 2003) provides access to useful, practical knowledge, but can also be an important source of inspiration and motivation. The latter is not least important vis-à-vis achieving development. We will provide some examples from meetings with pattern breakers in Norwegian schools.

This section of the shortcut is based on qualitative data: primarily interviews with principals and teachers at Norwegian schools. The schools were selected on the basis of advice from researchers who have conducted questionnaire surveys, interviews and observations at many Norwegian schools. In other words, these are not the same schools that took part in The Learning Lab’s survey. The main criterion we used for selecting schools was the researchers’ assessment of the organisation’s ability to implement development projects and resolve everyday tasks. The schools’ learning environment score on *www.skoleporten.no* was also used as a selection criterion.

In addition to our own interviews with principals and teachers this section of qualitative research is based on, among other things, a study of Norwegian demonstration schools (Riksaasen 2004), a study of schools that participated in the central research projects concerning working hours schemes (Bungum et al 2002 and 2003) and reports and books about individual schools (Dahl and Gullikstad 2003, Dons et al 2003). After giving talks about the work on learning schools at seminars and conferences in the sector, the Ministry has also received contributions from several (demonstration) schools and development oriented school authorities.

The schools we have spoken to appear to have succeeded well with respect to their development work. Often a combination of practical changes to everyday work and more overarching strategic measures are needed. We can refer to all of this using the single term innovation. We do not use the term innovation here in the sense of implementing an isolated restructuring process, e.g. introducing a specific teaching method or redrawing an organisation chart. Innovation is more about always searching for better ways to work (together) in the everyday work and about breaking entrenched habits and routines when they no longer work. In our interviews with pattern breakers we focused more on the actual innovation process itself than on the content of each individual project. How do schools proceed in order to achieve the changes they have set for themselves? How does the innovation take place in practice, and what can other schools learn from this?

### **Pattern breakers see opportunities where others see obstacles**

The most striking thing in the interviews with pattern breaking schools is that they see opportunities not limitations. Principals and teachers at these schools also have their concerns, and speak up when they believe the school authorities are acting unwisely. Nonetheless, it is their enthusiasm and positive attitude that dominate. In area after area, pattern breakers tell positive stories from everyday life in schools.

When asked about the availability of capable staff one of the principals said the following:

*"I think I have an unbelievable number of capable teachers. Some I have inherited. Some I have hired myself. Everyone is not good at everything, goodness no. That is the way in all professions. Most of them have one or more things that they need to work on. And I am not always impressed with what they bring with them from their training. Just to make that clear. Some need lots of help and practical guidance at the beginning. And we try to give them that. But I believe in letting them use their specialities. I'm very flexible when it comes to allowing them to work a lot with things they are enthusiastic about. There is a big difference between a committed and a non-committed teacher! Of course the jigsaw of tasks, teachers and pupils has to fit together. But this is doable. It is easier as well, now that the responsibility for detailed planning and resources expenditure at this level has been given to the teams."*

Many express concern about the pupils' motivation and discipline, especially in lower secondary schools and upper secondary schools. With some pupils entering the school with a poor starting point in relation to how they should behave it is important to establish a standard regarding what one wants. Not because they are not interested in academic development, but because they have to expend some energy on creating a good learning environment. Two things were highlighted. Firstly, it has to be concrete. Many are therefore interested in ensuring that things look proper. That people pick up rubbish and crack down on vandalism and antisocial behaviour. At the same time many point out the importance of a level playing field. Pupils must see that teachers crack down on the same incidents in the corridors and that conflicts are handled in relatively the same manner in the different classrooms. If one is going to succeed in creating a good learning environment, teachers cannot take their own lines.

What about the academic development of the pupils? One principal at an upper secondary school said the following:

*"There is great variation in the pupil mass here. Some are very school motivated. Others are absolutely not. Some bring weak results with them and get little follow up at home. As a teacher and manager you must recognise that the energy they have to put into academic work varies. However, they still need to be seen as people. If I say "a lost cause", it is easy for him to live down to this. If I view him as a person from whom I expect things, he may take charge of his life. Find out what he wants from school. Or become an apprentice. It is meaningful when you manage this."*



*Sometimes the academic part must take a bit of a backseat. This doesn't mean that it is not important. Not at all. It is just that it is not always the right starting point."*

Some schools have buildings that to all appearances would make it impossible to improve the teaching or how the teachers work together. Some of the demonstration schools have created totally new school buildings, which have also helped them achieve distinction. However, there are also examples of demonstration schools that have old, crowded school buildings without this appearing to represent an obstacle to establishing new practices in the school. In order to use more varied forms of teaching some schools have divided up classrooms with partition walls. One school chose to throw out its old sofa group in the teachers' common room because the majority thought they needed more space where teachers could prepare collective pupil projects and design new teaching plans together. Others have started using old corridors to create individual workspaces for pupils. In the report on the demonstration schools we also find examples of the opposite, namely schools where traditional school desk teaching is done in new workrooms with different designs and functionality. An old fashioned building can of course more or less stand in the way of new teaching practices, but new patterns of interaction are always created by *people*. One teacher highlighted the lack of interdependence between the staff in the schools as an important reason for the lack of cooperation and low level of knowledge sharing between the teachers:

*"It is clear that more project rooms would be practical. We need these. But if you want to improve your teaching and see that you could learn something from your colleague, you can do it. You can do this in a broom cupboard if you have to. But, you have to want to. You have to see the need."*

Pattern breakers also experience that everyday small concerns can sap their motivation and that it is easy to kill off good ideas at conception. At several schools the teachers have been encouraged to think freely about the school of the future without thinking about resource related limitations. They have asked questions such as: which of the solutions we saw during the school visit can we realise in our school today? What fits, and where do we have to use our own ideas? How would we run this school if there were no obstacles? Several of the principals say that it is necessary to stress that development work involves a division of responsibilities: the teachers should primarily concentrate on creating what they believe will be the best school, and principals can do their best vis-à-vis the money afterwards.

Some of the principals of the demonstration schools are also very proficient at procuring resources for development. But this in no way means they all are. Riksaasen concludes that it is not possible to demonstrate a direct correlation between good finances and school development in her study (page 89). It appears that pattern breakers may have managed to create greater space for themselves to act in than many other schools with equivalent general conditions through hard work and a positive attitude.

### Organisation development must be rooted in the pupils' learning

The other points that come out of the interviews with pattern breakers are that improvement projects, visions and organisation development do not live lives of their own alongside the teaching. When one presents a school's educational philosophy, it can easily become abstract and non-binding, but in a pattern breaking school it is a short path from fine words to concrete consequences:

*"Being a 'school that sees' is very specific, really. Seeing an opportunity to make positive changes, for example – well, that means that when two teachers at another upper secondary schools have created a plan for systematic pupil development that appears to work, then we can just start using it. See if it works for us as well. In these circumstances we don't need to discuss the matter at two more meetings. Or seeing each other as people. That requires teachers who are both capable professionally and methodologically, but who are also good with people. When we hire someone, we look at experience and suitability. At how she fills out the team. We ignore formal seniority."*

Another characteristic is that pattern breakers talk about pupils when they talk about organisation, management and cooperation at the school. Take for example the use of a team structure. On paper this is a structural change that from a formal perspective moves some of the responsibility for a group of pupils from the principal and vice-principal to a team consisting of several teachers. The team is typically responsible both for carrying out tasks and the division of resources in order to provide 'their' pupils with good teaching. However, it was clear from the interviews that the team structure involves more than just changing the organisation chart. It is a new way of facilitating teaching that links the teachers' shared time more closely to the interaction with the pupils. Where one previously discussed general challenges at the school and had common planning days based on an annual timetable, one now spends more time together discussing and resolving concrete challenges in a specific subject, in a shared project, in a specific class or for an individual pupil. The pupils are often drawn actively into the development, for example in the drawing up of new timetables or as participants in the teams. Those schools which often make visits to give presentations or learn, often allow pupils to come along on the school visits or participate in the job of giving a presentation about the school.

Many pattern breakers have taken the following sorts of measures:

- They alter the division of responsibilities and tasks between the teachers and managers through the use of teamwork, responsible groups and so on. This often takes place at the same time as they move away from traditional work time arrangements, introducing core hours or the like for teachers.
- They organise the working days of pupils and teachers differently through the use of new timetables and flexitime.
- They divide up the school year in a new way; introduce ongoing planning for each period (often delegated).

They do this so they can achieve adapted teaching and to free up time and resources to develop new practices. Many also point out the need to get as much as possible out of limited financial resources and to manage the human resources in the school better. One principal said the following:

*"I cannot see how we would manage to do our jobs if we hadn't changed how we divided the school year up. If you are going to manage to combine single subject blackboard teaching with other more interdisciplinary teaching methods, you have to redraw the map. You must see the whole picture. Not each subject, each individual hour in the same weekly timetables throughout the entire year. You won't see the forest for the pine needles."*

It is also important to stress that not everyone likes to talk about big organisational measures. Many stress that they have not arrived at where they are through one isolated effort, but by improving a little everyday. If they have broken with anything, then this was primarily a break with the practice where the capable teacher only takes responsibility for his or her own pupils in his or her subject. This also means when things get difficult, a teacher is no longer alone but can draw on others in the teaching faculty to resolve a deadlocked situation with a group of pupils. Several people warn against reorganisation for the sake of reorganisation. One should focus more on what one wants to achieve, especially in larger schools. Who will benefit from this change? Is it the middle managers, the IT enthusiast in the teaching faculty or the pupils? If one is going to make structural changes or organisational changes, they should directly influence the everyday practices of the pupils and teachers. And one should also assess whether the project has been a success or a fiasco. It must start and end with the pupils, as one person says: *"If it doesn't benefit the pupils, why should we do it?"*

### **How do you get started?**

At several lower and upper secondary schools recognised problems or weak results at one's own school provide the starting point for improvement work. At one lower secondary school in Trondheim the need to find new approaches to a school that functioned better for today's young people increased in the last few years. They experienced a steadily greater gulf between the best and the weakest in the pupil body. What had once worked successfully for the teachers, no longer seemed to work. A group of teachers came to the same conclusion at around the same time. One of them is Per. An influential staff member in the teachers' common room. Almost 60 years old. He could have decided to minimise his work during the last few years of his career. Instead he said: *"Not the same way again."* This was the start of a process of change that, if one is to believe the pupils' reports about their own motivation and the school's learning environment from "the pupil inspectors" has had very positive result.

The need for change in an organisation can in other words arise from a common perception that the school has too many pupils with poor motivation and tired teachers. But more measurable challenges such as poor results or falling

application numbers to upper secondary schools can also function as the starting point for changes. For one school in Oslo the free choice of school scheme forced changes. The vice-principal says:

*"We experienced a fall in applications to the school; steadily fewer pupils with poorer grades from their compulsory education. The proportion of minority language pupils was up to 80 per cent, higher than one could expect given the pupil body in the school's neighbourhood. The way we taught obviously worked poorly for many of the pupils. I think no one would have blamed us if we had resigned. Instead we managed to forge a new course. We do after all have a good staff, we thought. If the interaction with the pupils is poor then it is our responsibility to do something about it. What if we reshuffle the deck and do things differently from now on? I actually think the major challenges we faced were an advantage for us. We had little to lose. It takes courage you know to initiate changes without knowing quite what will emerge at the other end."*

Major changes and problems can then provide a starting point for positive developments. This requires the managers and central actors in the school being able to manage to generate an acknowledgement, a collective learning pressure in the teaching faculty, that something has to be done. This provides direction, drives the development work and helps make the goals become very visible and specific.

Once recognition of the fact that the job must be done differently has been established, visiting other schools can be a way of gaining sufficient "momentum". Ideas from visiting schools are easier to convert into practice at one's own school when they come in the form of a book or in the form of a report from the Ministry for that matter. Someone has already translated a theoretical idea into concrete solutions. One does not only gain access to the philosophy and principles behind the solution, one also gains access to the practical measures the school took to achieve it. Which corners have they had to cut in order to achieve it in practice? What remains then is to adapt it to one's pupils and school building. Some things will be able to be kept, while others will have to be peeled away. However, the biggest translation job has already been done. By no means least importantly, it may be of use that many colleagues have seen that it actually works.

A development process that many people describe goes as follows:

- Collective recognition that change is needed
- Visits to a school that has made changes
- Adaptation of the good ideas to one's own everyday school life
- Start the development in one part of the school; based on voluntary participation if you want
- Testing and failing – to show that it is possible
- Thereafter spreading the new, promising practice to the entire school

Specific problems with the social environment have also provided a starting point for some primary schools. However, here it is more common for the principals

or other strong teachers at the school to take the initiative regarding specific improvement projects. The appointment of a new manager, the merging of a number of schools, results from user surveys and school evaluations are other factors that can help schools to start work on systematic development work. Many of the schools talk about several incidents that together resulted in enough energy to get started. Some people have participated in pilot projects; others have been allocated extra resources for skills development, or have started a process of change as part of the work on designing a new school building. Such external opportunities seldom form the starting point for processes of change, but are integrated in the organisation's development work and add extra energy: *"The development was already underway, but the differentiation project fit hand in glove, so we joined in."*

### **Management is important, but is exercised in different ways**

Management is vital in development processes, but in practise it is exercised in different ways. Major changes in an organisation will always entail both healthy scepticism and unjustified resistance. Many of the managers of pattern breaking schools have seen that it pays to show how the changes will turn out in practice, before they involve the whole school in the development. It is not unusual to start by changing the practices of a group of volunteers and motivated teachers.

*"For us starting with the most enthusiastic teachers worked. I chose to back them up instead of fighting the resistors first. Someone has to lead the way and show that it is possible. And not least that it is fun! The others can then follow later."*

Many people also feel it is a good idea to start testing in a limited part of the organisation because general plans and new methods of working have to be tested and adapted when put into practice in real everyday school life. Not everyone will be as strongly involved in the development work at the start, and some people deliberately wait before having some of the hardest discussions with teachers who are against it until they have seen how the method works in practice.

Here many respondents highlight a dilemma. A certain amount of pressure is required from managers and key staff at the school in order to get things rolling at all. At the same time it is absolutely vital to listen to justified criticism and objections. Not all new ideas *are* entitled to see the light of day. If they do not work, one must also be willing to discard them. Many people struggle to find a balance between the need for change and the need to preserve what is valuable. It is difficult to talk warmly about a new form of teaching and at the same time acknowledge that old methods are still viable, that they should still be used, though perhaps to a lesser extent:

*"It is hard for many people. The management puts forward a cooperation project between two teachers and says that this is good. We should do more of this. And there sits the capable history teacher feeling that 'I'll never manage this. Apparently what I'm good at is worthless now.' But we will of course still be teaching lots of classes in front of a blackboard. We need the capable history teacher even though he is used to*

*planning his teaching on his own. We need everybody who has a burning enthusiasm for their subject and set the bar high when working with the pupils."*

Others place greater weight on clear management to achieve the changes. They believe that the principal must lead the way and show that this is something that is not going to pass and that they are not afraid to reward teachers who are driving forces behind the development work in order to encourage more teachers to join in. Local pay negotiations and better skills development opportunities are means that are used to achieve this. In some cases it is also necessary to find solutions for the teachers who are unable to change.

*"In such a big organisation you have to get the majority on your side. If you wait until the last hand in the teachers' common room has fallen, nothing will happen. We have had people who left. We have had people who we have had to help out. And we have had people who think it is pretty good fun working here after the changes after all. If everybody still thinks that they fit in just as well after the restructuring, I suppose this means in reality that we haven't made all that many changes."*

In order for a school to become a learning organisation, the entire organisation must be brought along at the end of the day. Being a learning organisation means that the mainstay ideas in the development work permeate the entire organisation's practices. This is particularly challenging for large schools with many different cultures. The managements play an important role in this phase, but also utilise different strategies.

### **Summary: you just have to start doing it**

There is no lack of good intentions, high expectations, new ideas and isolated experiments in schools. Innovation is about spreading good practice and putting good ideas into practice, not just as an experiment in a class, but by establishing new practices in schools. As we have seen this often involves one having to break with familiar patterns, whether this involves organisation, divisions of tasks, division of resources or mindset and the understanding of roles. One can find inspiration from other schools and professional circles, but it is the schools themselves that have to sit in the driving seat. Innovation requires learning in the organisations themselves (Lundvall et al 1992). We have seen that there is often a combination of active experimentation in teams, and collective reflection and the formation of ideas about what functions well and less well in one's own school. In the first chapter we described four learning process at an organisational level that are important when it comes to establishing new collective practices. As we have seen from our meetings with pattern breakers in schools the various parts are given different weight in different organisations, and it is not the case that one has to go through the various steps in a specific order. Some people actively switch between testing and assessing results at the start of their development work: they work a lot on testing out new forms of working in order to see whether this provides better results. They allow the collective reflection and formulation of concepts to develop over time. At other schools the formulation of concepts and



reflection are also prominent at the beginning: one involves the staff in collective reflection about the need for a new educational platform, at the same time as one works on being more concrete and moving towards the action phase.

Both the acting and the reflective modes are necessary and important in order to achieve development, but the reflection and formulation of concepts does not need to take place before acting. On the contrary, many people warn about the danger of remaining in the discussion phase. Collective reflection is important, but if everyone has to agree that something is not working well enough, that the school needs to change its practices, and what this change should specifically consist of, *before* the teaching faculty begins to do something, you will kill off the development process before it has even begun. When Senge (1990) talks about shared visions he obviously does not think of fine writings in planning documents, but of visions of the future which motivates the employees and are lived and recreated each day in organisational practices and performances. Otherwise the result may turn out as the figure 2: The reflective mode is out of balance.

Everyone we have spoken to therefore points out the importance of “starting to do it”. Let some of the enthusiastic teachers lead the way and show that it is possible to achieve change:

*“Many of us love to discuss, and that in of itself is all well and good. But it results in a lot of theoretical discussions if one doesn’t have specific examples to point to. If you just start doing something, you can say: ‘like Geir and his team’s work with the pupils. I think we should do more of that. That is what I mean by new teaching philosophy.’ We don’t need to resolve all the possible hypothetical problems in advance. Of course we will have the theoretical discussions. But not just them.”*

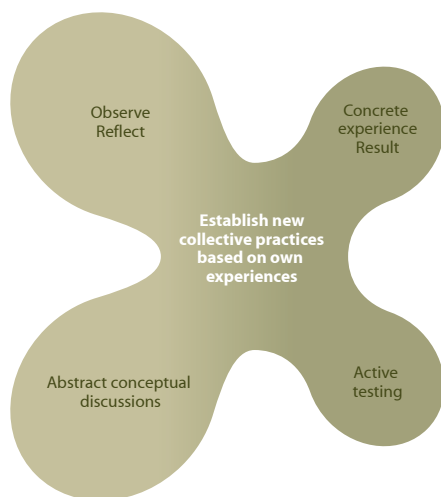


Figure 2: Imbalance between the learning processes

By way of conclusion we should stress that the pattern breaking schools also do not want change to be a goal in itself. Innovation is not about embracing every new educational idea or method. Pattern breakers want new ideas to have to face the healthy scepticism of critics. Critical reflection is vital when it comes to testing and adapting new scenarios for everyday school life. But is it also important to have the courage to discard new forms of working if they do not work as planned. It is therefore important that the organisation assesses the development of new practices against the concrete results of the work. This often involves assessment by the teachers and principal about what works well and poorly at the school. Even though some of these results are not easy to quantify, they usually involve factors that can be observed and confirmed by other schools, school authorities and parents who are not in direct contact with the school. Some pattern breaking schools stand out in that they can also point to a quantifiable positive development in selected areas, for example results from standardised tests, less bullying or the like.

If one manages to supplement the staff's own assessments with more 'tangible' documentation concerning which measures contribute to what, or what works well and poorly in various situations, it will probably be easier to spread the experience to more people. Most schools have however little tradition of doing this. Several people point out that assessments of, for example, learning environments or academic progress must be used sensibly, and that, by no means least, using various indicators and dimension figures actively to improve quality is something one needs to practise together.



## The way ahead

Little work has been done in the research into learning organisations on trying to find quantifiable correlations between organisation development and the pupils' learning. The survey by The Learning Lab indicates that there is a correlation between organisation development, interaction and expectations in the adult environment in the schools and the pupils' learning.

However, this research is just a first attempt that ought to be followed up by more thorough and more representative surveys, both in the primary and lower secondary schools and in the upper secondary schools. It may also be a good idea to investigate whether or not one finds such correlations in other sectors. This will naturally entail modifying the questions about organising conditions and choosing result indicators suitable for the individual branches or sectors.

One of the main challenges will be developing better data on the result side, and checking for other factors that might be critical to the organisation's overall performance more systematically. As far as schools are concerned, hopefully in the long-term the results from the national tests will provide better opportunities to follow trends in the individual schools over time. The development of results data that has been corrected for the pupils' social backgrounds<sup>12</sup> may also help to shed new light on the contributions schools make to the learning of various pupil groups. This could provide a more correct picture of the contribution schools make today than the data we currently have available. In future surveys it will also be necessary to research more factors at the schools that we have not had an opportunity to measure this time round, e.g. access to resources, teacher densities, teachers' competence levels, specialisations and so on. Further research into the contribution schools make to the pupils' learning will be able to draw on perspectives from both organisation literature and from research on the characteristics of high performing and low performing schools.

In addition to more thorough quantitative research it would be interesting to conduct qualitative research into both learning and non-learning schools. We know too little about how organisation, culture and interaction patterns among the staff in the schools correlate with the teaching and the pupils' learning. By studying the development of learning and non-learning schools one would gain more knowledge about which strategies and methods are used to develop organisations and the result these have on the schools' results.

The main purpose of this shortcut is to stimulate goal oriented development in schools. We hope the perspectives in the report will contribute to a stronger focus at the organisation level in schools and, not least, discussion of the many questions that remain unanswered. In order to move forward it is important we receive feedback from school authorities, managers and teachers about whether they recognise their experiences or have other experiences that have not been covered in this report.

Contact info can be found at: *[www.kompetanseberetningen.no](http://www.kompetanseberetningen.no)*

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<sup>12</sup> See Hægeland, Raaum and Salvanes (2004).

## Overview of base data

- Survey from upper secondary schools conducted by The Learning Lab in the autumn of 2004 on behalf of the Ministry of education and Research (UFD). Around 1,000 teachers and 39 schools participated. A more detailed description of the base data, methodology and findings is available at: [www.laringslaben.no](http://www.laringslaben.no). A lengthier report from The Learning Lab on the survey will be available in the spring of 2005.
- The grade development data used were obtained from the county councils' reports to Norway Statistics for 2004. Based on this material it was not possible to investigate any systematic deviations between grade development at the schools and the pupils' exam grades.
- "The pupil inspectors" is a web based questionnaire in which pupils can give their opinions about their schools. The aim of "The pupil inspectors" is to allow pupils to influence their education in their schools and give their opinions about issues that are important to their learning and flourishing. From 2004 all schools have had to conduct pupil evaluations in the 7<sup>th</sup> and 10<sup>th</sup> grade, as have upper secondary schools for their basic courses.  
[www.elevinspektorene.no](http://www.elevinspektorene.no)
- The *Kultur for Skoleutvikling* report by Rita Riksaasen is a study of the demonstration schools that were selected for the period 2003-04. The author of the report visited all the schools and interviewed principals and teachers.  
[www.ls.no/dav/1FA1DC0EBA.pdf](http://www.ls.no/dav/1FA1DC0EBA.pdf)
- The Learning Conditions Monitor 2003-2004 is an annual analysis of the learning conditions in the labour market conducted by Fafo on behalf of the Ministry of Education and Research. 12,000 respondents (Hagen, Nyen and Skule 2004). A survey of teachers' participation in continued and further education was also carried out (Hagen, Nyen and Folkenborg 2004).
- Statistics Norway's Working Environment Survey 1996-2004 formed part of the Standard of Living Survey that Statistics Norway conducts every four years. The survey analyses factors associated with physical and organisational working conditions. Around 2,500 respondents.
- The Vox Barometer 2004 spring and autumn is six monthly survey of various aspects of learning at work among Norwegian employees conducted by the Vox Norwegian Institute for Adult Learning. Around 2,000 respondents.  
[www.vox.no](http://www.vox.no).

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## **The Norwegian Competence Report**

The Ministry of Education and Research (UFD) started the Norwegian Competence Report project in the autumn of 2002 in order to develop a better basis for policy formulation in areas in which competence and learning are key factors. Despite the fact that most people can agree on the importance of competence, we do not know that much about how knowledge contributes to mastering, welfare and wealth creation.

The Norwegian Competence Report takes as its starting point the fact that Norway has considerable knowledge resources. We also invest a great deal in education and training in schools and the labour market. However, the existing figures and statistics tell us little about our ability to develop and use knowledge resources when faced with concrete challenges. It is very difficult to capture and measure competence in use. It would be easy to expend all our energy on discovering the magnitude of our knowledge wealth. However, we chose instead to focus on what we do with our knowledge resources, which meant we had to both quantify and report. We chose to release preliminary results early so that the feedback, criticisms and alternative viewpoints can help us in our future work.

The first Norwegian Competence Report was published in the autumn of 2003. It looked at lifelong learning in general and learning at work especially. The report covers examples of learning and innovation in Norwegian enterprises, concretises and simplifies the basic theory in the form of terminology and visual illustrations, and combines new data and existing research and statistics about learning “from the cradle to the grave”.

The Learning Conditions Monitor 2003 provided us with completely new data about learning in the Norwegian labour market. We now know that Norwegian employees spend about 26 hours per annum on courses and further education. 57 per cent of employees have participated in shorter vocational courses, while formal continued education is less widespread. On average only 7 per cent of employees have participated in continued education. This situation was largely confirmed by new measurements in the Learning Conditions Monitor 2004. As far as informal learning is concerned we found that around 60 per cent of Norwegian employees have jobs characterised by a pressing need to constantly develop their competence and by good opportunities to learn in their everyday work. We also found that the higher the level of education an employee has, the more they also learn on the job. This is especially true with respect to participation in courses and continued education, though a high level of basic education is also to some degree an admission ticket to jobs with good opportunities to learn in one’s everyday work. Meanwhile, we found some variation between the various sectors that could not be explained on the basis of the levels of education among the employees. One of the main findings in 2003 was that the education sector did not provide particularly good opportunities for learning in employee’s everyday work, despite the very high levels of education.

“A shortcut to the Norwegian Competence Report 2003” provides an overview of the ideas and main findings in the first Norwegian Competence report. All the reports that make up the first report can be downloaded from the project’s website: [www.kompetanseberetningen.no](http://www.kompetanseberetningen.no)



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