

System-wide, cohesive school development in upper secondary education

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In order to meet the need for improved quality in primary and secondary education and training, various reforms, new national curricula, legislative changes and national development projects have been implemented at national level. This has taken place by way of the national governing authorities having adopted changes to schools that local authorities and schools have had to realise. This externally managed and often national school development has been criticised as it does not adequately take into account local conditions, does not show sufficient faith in employees and fails to capture the complexities of schools (Irgens, 2016). It could be argued that external governance counteracts the autonomy required for each school and teacher to provide high-quality education. As such, there are many arguments in favour of school development taking place locally and at individual schools to a greater extent. This represents an inside perspective on school development.

The dilemmas that arise in the relationship between external control and internal development in schools are both relevant and current. Current external governance is characterised by legislative changes and national targets, such as those set out in LK20. At the same time, great emphasis is placed on strong, decentralised and local school development. Through the administration of decentralised qualifications funds, it is noted that the skills requirements at each school must be emphasised (Gilje & Bolstad, 2020). School development through decentralised skills development for teachers will primarily be decentralised and internal and the university and university college sector is tasked with contributing skills to local school development.

Several approaches to education leadership also emphasise decentralised principles (Dons, Nilsen & Skrøvset, 2020). Here it is stated that schools have limited abilities and should be managed firmly from the outside and that schools should increasingly be developed through circular, collective processes in which teachers, school leaders and school owners collaborate. This type of decentralised principles and inside development in schools can also be considered a reaction to what some believe to be an expression of external management by objectives with New Public Management traits (Irgens, 2016).

Anyone involved in school development will both explicitly and implicitly have to deal with the contradictions and dilemmas outlined in brief above. This article will shed light on the challenges between external and internal governance in schools through systematic, long-term school development efforts at all upper secondary schools in the former county of Hedmark. The school development initiative was launched in 2008 as a result of only 63% of upper

secondary school pupils completing and passing their education and, together with Finnmark, Hedmark was the county that performed the worst in the statistics. This meant that many young people were left without the opportunity of further education and several ended up experiencing difficulty participating in the labour market. The school development initiative was managed by Hedmark County Council and the work can be considered regional school development as it involved all upper secondary schools in the county.

The problem at hand for this article is: To what extent and in what way can regional school development in upper secondary education contribute towards improved pupil results? This problem indicates a causality as it assumes that school development can yield specific results. Nevertheless, there is no research design associated with this article that clearly satisfies the causality requirements, but we will still present empirical data to discuss whether there is a correlation between the systematic school development initiative and the results that have been achieved.

A system-wide and cohesive approach to school development

Regardless of approach and principle, school development will involve several levels and stakeholders in schools. The desired change in educational practices and pupils' learning in school cannot easily be realised unless teachers participate. School leaders are responsible for the educational provision at each school and it will be crucial for leaders to get involved in development efforts at their own school. Naturally, as school owners, the local authorities and county councils will be of importance in whether and how school development efforts can be realised. At the same time, central government will also have a role to play through the national guidelines that have been established for education and the framework that has been laid down for school development. The extent to which and how the different levels and stakeholders in school development are involved will vary, but it would seem that it would be advantageous for the school owner, school leaders and teachers to be active participants. When this is the case, school development can be considered system-wide, i.e. affecting all levels of the school and everyone are stakeholders.

In order to succeed in such a system-wide school development initiative, Fullan (2011) argues the importance of putting emphasis on the correct drivers in the development work. There are arguments in favour of holistic and cohesive work where coherence must exist in school development (Fullan & Quinn, 2016). Coherence can be considered a cohesive, system-wide framework to contribute to changed practices and improved learning on the part of pupils. School development has often been fragmented, short-term and, in many local authorities and schools, characterised by several ongoing school development projects at the same time. From a system-wide perspective, this would not contribute to adequate learning on the part of professionals and could easily lead to frustration and indifference (Bryk, Gomez, Grunow & LeMahieu, 2015). Coherence is about focusing on the correct drivers and integrating these elements in school development in a way that gives meaning for school owners, school leaders and teachers.

Fullan and Quinn (2016) have identified five drivers for school development to be cohesive and they state that the drivers must be integrated with one another. Drivers should be understood to mean factors that have a decisive influence on school development. The drivers in Fullan & Quinn's model have been derived from experience and research within a number of school development projects. In this project, we have adapted the drivers with an emphasis on a knowledge-informed practice.

- A common direction a few clear and transparent goals that provide direction for educational practices and leadership.
- A collective culture in which capacity is developed in individual schools and local authorities through, for example, the use of professional learning communities
- Clear strategies and a knowledge-informed practice to ensure the necessary precision in educational work with regard to both the learning environment and teaching at the school.
- Use of data and information relating to teaching and learning to contribute to accountability and improved educational practices.
- Leadership at all levels of the individual school and in the public administration to ensure the necessary prioritisation and cohesion in school development.

Overall, these five basic drivers aim to provide a unified, system-wide school development over time. One interesting question would be to look at the pre-requisites for these drivers to be established and maintained. This question will, to a limited degree, be answered here but an important assumption will undoubtedly be that school owners and individual schools need to have sufficient capacity to realise these drivers in school development. In practice, this will involve releasing resources and developing the necessary expertise to implement and execute holistic, system-wide school development.

Depending on how these five different drivers are used and understood, the work with the drivers can also ensure a balance between external governance and internal development in schools. Below, these drivers will be described through both a brief theoretical review and a description of what has taken place in Hedmark.

A common direction

It is appropriate to have a common direction and clear understanding of what the work will contribute towards in school development (Robinson, 2018). This should ensure that school development is driven based on a clear purpose that all involved parties are familiar with and that the educational approaches and strategies selected relate to this purpose. The overall goals and direction of the work should, to the extent possible, be linked to pupils' learning, well-being and development in school, i.e. the perceived curriculum (Fullan & Quinn, 2016; Goodlad, 1979).

A common direction for school development should be an expression of a process rather than a static goal to be realised (Hargreaves, Boyle & Harris, 2014). The direction should entail a

deep, clear purpose combined with continuous learning and genuine actions in school. A commitment to the common direction and realisation of actions means that the direction – or goal – should be simple and easy to understand and remember for all employees within the school sector. Furthermore, a common understanding of what this will entail and how it will be managed should also be developed. In the work to embed a common direction for school development, it will be crucial to prevent distractions and changes in order to maintain direction over time.

In Hedmark County Council, the common direction from 2008 and until Innlandet County Council was established, has been to increase the proportion of pupils who complete and pass upper secondary education in the county. This is a simple goal that all employees are able to remember and it also provides a clear direction. The goal has always been embedded in binding county policy decisions that have provided clear guidance for the administrative ownership level and each individual school. Furthermore, there were no changes to the objective or political orders that could distract or point to another direction during this period. Nevertheless, the goal to increase the proportion of pupils completing and passing has not been expressed using a specific percentage. The ambition is for more young people to complete and pass and this direction provides such guidance to realise practices that help increase the proportion and not least to monitor developments. The direction of school development in the county has therefore increasingly contributed towards a process rather than a specific target to be met.

Developing capacity and skills through professional learning communities

Collective skills development for teachers has been emphasised strongly in recent years and is often viewed as a key aspect of school development. There is also evidence that collective approaches can help increase the educational skills of teachers and lead to changed practices. (DuFour, DuFour, Ealer & Karhanek, 2010). Overall, professional learning communities mean that the professionals in school, teachers and leaders, must collaborate in communities in order to learn from one another. Stoll et al. (2005) define professional learning communities as follows:

An inclusive group of people motivated by a shared learning vision, who support and work with each other to inquire on their practice and together learn new and better approaches to enhance student learning (p.1).

This definition underlines the fact that professional learning communities should be a continuous process and culture in school. Teachers and leaders in professional learning communities must work together and share knowledge and experiences to help each other to further develop teaching practices and thereby improve pupils' learning (Marzano et al., 2016). This is central in school development as the teachers teach and interact with pupils. In practice, this means that teachers and leaders should erect a “mirror” to reflect on their own practices together with colleagues and, not least, discuss the correlation between their own practices and pupils' learning and development.

Professional learning communities should be understood as a working method that characterises the entire culture and working life at a school. Schools with strong professional learning

communities are characterised by a collaborative culture and attitude on the part of employees that focuses on educational practices and learning. In school development, this will often necessitate a culture change as it is crucial to development and improvements will be institutionalised and last over time.

At upper secondary schools in Hedmark, great emphasis was placed on skills development and the use of professional learning communities. All upper secondary school teachers have participated in school-based skills development in relevant thematic educational areas. With regard to external governance, there has been an expectation for all schools to participate in skills development and for all teachers at each school to participate. Nevertheless, individual schools have had the opportunity to select skills development initiatives in some thematic areas that have been determined and developed in collaboration between schools, school owners and external skills environments. These were: Classroom management, educational use of ICT, coping skills, motivation and relevance, reading and writing in all subjects, assessments, adapted learning, the identification, mapping and monitoring model, curriculum renewal. Within these areas, a skills development pathway has been developed including short academic texts, oral presentations, practice-oriented discussion and work activities and testing through their own practices under observation and supervision.

Through this skills development, teachers were organised in teacher groups spanning across traditional subject groups and programmes available in upper secondary education. This means that teachers with different backgrounds have reflected on and discussed educational challenges and tested these through different practices at school. Here, the purpose was to break with traditional perceptions and interpretation models that can often be found in established subject teams at upper secondary school. In this way, the organisation of the skills development pathways has also had the purpose of contributing towards changing the school culture in upper secondary education within the county.

Clear strategies and research-informed practices

Currently, there is a large amount of empirical research on educational practices and learning in school (Rasmussen, 2015). This is clearly expressed through large, international knowledge overviews of what has an effect on learning, as well as through a range of individual studies that highlight the results from a broad range of educational strategies (Hattie, 2009; Mitchell, 2014; Helmke, 2013). Both knowledge overviews and individual studies document that there are educational strategies that have a good probable effect on learning and that there are approaches and strategies that have less probable effects on pupils' learning outcomes. Furthermore, there is also more qualitative empirical research that demonstrates patterns and correlations between teaching practices and pupils' learning (Klette, 2009).

This type of research-based knowledge should form the basis for the choices made in teaching and in developing learning environments in school and should form a basis for school development (Nordahl, et al., 2018). This can be considered a form of accountability in school. This means that teachers and school leaders must be considered accountable for the choices

they make relating to educational practices and that the choices should, as far as possible, be informed by research-based educational knowledge. The research referenced here is empirical and focuses on the factors that promote learning and development in pupils.

Nevertheless, there is no easy and unambiguous path from empirical educational research to educational practices. Research-based knowledge will not in itself yield direct and simple educational answers, nor is that the purpose of empirical educational research (Ogden, 2013). On this basis, a bridge should be built between research-based knowledge and experience-based knowledge. This can be done through interactive models in which research meets practice and researchers meet school leaders and teachers. Using such models, research-based knowledge can be translated and linked to practice, while experience-based knowledge can be linked to educational research. Well-incorporated and experience-based practices will often yield good learning outcomes and may, upon examination, be found to be consistent with research-based knowledge (Ogden, 2013). Based on a link between research-based and experience-based knowledge, it is also possible to develop specific educational strategies and approaches that can be used by teachers.

In Hedmark, skills development has been embedded in research-based knowledge but some relatively clear educational strategies have also been developed and schools are expected to apply these. In the skills development pathways in the professional learning communities, teachers and school leaders have dealt with research-based knowledge and discussed what this might mean for their own practices and the extent to which established practices are consistent with research-based knowledge.

Furthermore, clear educational strategies with obvious research-based defined content have also been developed. The educational approach focused on joint vocational subjects in upper secondary education. This was offered to all joint subject teachers with specific knowledge of how vocational education can be delivered, but the sharing of experiences was also facilitated. Furthermore, all schools implemented the identification, mapping and monitoring model for the purpose of systematising close follow-up of poorly performing pupils (Nordahl & Overland, 2021). At the core of this model is the development of the educational offering for pupils based on identification, mapping and monitoring and a relatively clear system for how this will take place has been described.

Use of data and information on pupils' learning, well-being and development

The use of data from surveys, tests, observations, etc. is necessary in order to have the most valid and reliable information on pupils' learning and development. The term accountability is often linked to this type of information and underlines the school's responsibility for pupils' learning (Elmore, 2004). This accountability is a professional responsibility for and commitment to pupils' learning. Within this interpretation, it is common to distinguish between internal and external accountability (Fullan & Quinn, 2016).

Internal accountability in school refers to leaders and teachers assuming personal responsibility for their own practices and pupils' learning and development. This not only entails

responsibility for pupils' academic results but also accountability for pupils' social and personal learning and development. Such internal accountability in school should also have a collective and mutual dimension by linking personal accountability to an accountability that is found in the school's culture. (Elmore, 2004). This does not entail a teacher being solely responsible for a pupil's challenges as the responsibility is shared with other teachers in a professional community. This can be linked to "collective teacher efficacy", which expresses a degree of the teacher's shared belief in being able to manage their duties and help all pupils to improve (Donohoo, 2017).

External accountability is required in order to develop internal accountability in school and on the part of individual teachers (Fullan & Quinn, 2016). This is about developing and maintaining systems that contribute to internal accountability. Such systems must ensure that leaders and teachers have access to data and other types of information on pupils' learning and that teachers have the skills required to convert data into improved practices and better learning. This highlights the fact that information and data have little inherent value if not used. The analysis of data and the choice and subsequent implementation of educational initiatives are the most decisive factor.

Upper secondary education in Hedmark has had a significant focus on the use of data and other information at each school. The school owner has designed a systematic approach to how this should be carried out. All upper secondary schools have received two visits from the school owner each year, with a systematic review of learning outcomes and educational initiatives. This was linked to progression and development at each school, the departments within the schools and the year groups alongside a real-time discussion of the correlation with the educational initiatives that have been launched. This review is based on quality assurance of data from the county council and an agreement with the schools concerning what needs to be measured.

Furthermore, an expectation indicator was established for each school based on the provisions at the school and the pupil base, so that all schools had a realistic expectation for pupil development broken down by educational programme and year. This expectation indicator is based on the number of points from compulsory education pupils bring into upper secondary school and the learning they receive throughout upper secondary education. The purpose of the relatively strong focus on data was to develop a culture and internal accountability expressing that as many pupils as possible should complete and pass upper secondary education.

The role and importance of leadership

Educational leadership has become an essential part of the school leader's responsibilities to ensure that decisions linked to teaching and the learning environment at school are not solely left to teachers (Aas & Paulsen, 2017). School leadership is now a unique form of leadership and dedicated field in which the focus is largely linked to various forms of educational leadership. Research also shows that the quality of school leadership is linked to pupils' learning (Robinson, 2011). Nevertheless, school leadership does not have a direct impact on pupils' learning, rather the impact is indirect through the teachers' practices. A key question in

school development is therefore how leaders can influence teachers' practices so that pupils have the best possible chance of realising their potential for learning while also experiencing a safe and inclusive learning environment.

Irgens (2016) links this to what he considers to be two polar opposites in the perspectives on Norwegian education. One side emphasises school leadership with external governance and less autonomy for teachers through a top-down perspective. This can sometimes be recognised in terms such as learning-centred, pupil-centred or instructive leadership (Robinson, 2016; Aas & Paulsen, 2017). These are approaches to school leadership that express strategic and result-oriented leadership. According to Irgens (2016), the opposite to this is a leadership position that places greater emphasis on the teacher as an autonomous professional practitioner. This can be linked to leadership approaches such as transformational leadership, relational leadership, trust-based leadership, etc. (Aas & Paulsen, 2017; Spurkeland, 2017). In school development, this can be recognised in concepts such as co-creation and internal development (Dons, Nielsen & Skrøvset, 2020).

A fundamental question then relates to the form of leadership practice that can realise the desired change in school development while also enhancing pupils' learning and development. Nevertheless, the results from research are not entirely clear here. It may appear that approaches such as transactional leadership can contribute to changes in teachers' commitment and perceptions but also to a lesser extent in pupils' learning (Leithwood & Sun, 2012). On the other hand, it may also appear as though more learning-centred or pupil-centred leadership has a more clearly documented effect on pupils' learning (Robinson, Lloyd & Rowe, 2008).

In Hedmark, emphasis was placed on developing result-oriented educational leadership in schools. This does not imply that school leaders have directly managed educational practices, but that they have established clear goals and actively participated in skills development for teachers through e.g. observation and supervision. Robinson (2016) links these approaches to the concept of pupil-centred leadership, which emphasises a focus on learning in school, as well as leading and managing teachers to realise such a focus. This interpretation of school leadership has formed the basis for the development of school leadership at upper secondary schools in Hedmark. In order to realise this, a dedicated leadership development programme spanning three years was implemented for all school-leaders. This programme ensured skills development through seminars that entailed presentation of knowledge and the sharing of experiences between schools. Furthermore, each upper secondary school was also assigned a supervisor who followed the leadership team at the school. The supervisors were specialists with broad leadership experience from upper secondary education.

External support in school development

Research on school development and improvement work in school provides excellent documentation of it being appropriate for schools to have access to external support in this work (Roberts 2013). There is often a need – and a necessity – for external specialist expertise and an approach to school challenges that entails adequate distance from everyday life at school. In a meta-analysis on implementation in school, external support systems are one of six essential

factors that are emphasised (Dyssegaard, Egelund & Sommersel, 2017). Here, external support systems refers to systems that provide access to specialist expertise, advisors, research-based knowledge, mapping results, communication platforms, etc. In school development, this could refer to external support from other local authority and county authority services, such as the educational counselling service (PPT) and external support from specialist communities within the higher education sector.

It is important to underline the use of the term support system rather than the term help. Help entails doing a task for someone, while support entails contributing to someone performing a task themselves. Empowerment will thus be a crucial approach for all work undertaken through external support systems. At the same time, the external support system should challenge existing practices and contribute to a commitment to changing practices. External support should contribute expertise the school lacks and support the use of such expertise.

External support has been used for the duration of the school development period in Hedmark. Various environments and advisors without a direct link to the schools and school administration have been involved throughout. This took place through the skills development pathways, guidance and support for school leaders, dialogue at political level and participation in steering groups. External specialist environments have actively contributed to discussions about strategic initiatives in development work and have also been responsible for more direct skills development and guidance.

Methodology and data

In order to confidently answer the problem addressed through this article, a quasi-experimental design should have been drawn up with separate measurements before, during and afterwards, as well as comparison groups consisting of upper secondary schools outside the county (Cohen, Manion & Morrison, 2017). Such a design does not exist, but existing data can be applied to get an indication of some answers to the problem. This can be done by presenting and discussing the trends at upper secondary schools in Hedmark for the period from 2008 until Innlandet County was established in 2020. This is also the only possibility, as school development did not take place as a delimited project with a parallel research design but was more a part of the ordinary operation and development of upper secondary education in the county.

The data for the results presented here was retrieved from the upper secondary education data drawn up by Hedmark County and the national statistics for upper secondary education, largely from Statistics Norway and processed by the Norwegian Directorate of Education and Training (Utdanningsspeilet, 2020). The indicators that have been assessed have also been linked to the overarching objective of increasing the share of pupils completing and passing upper secondary education. This is:

- The proportion of pupils who complete and pass upper secondary education within two years of the standard period. Here, two years after the standard period is used, as this is the number of years for which the right to attend upper secondary education is valid.

- The proportion of pupils completing and passing per academic year. This is the proportion of pupils who pass from Year 1 to Year 2 and from Year 2 to Year 3 and provides a good indicator of how large a proportion of pupils will complete and pass within two years of the standard period.
- School contribution from each school summed up at county level. This is an indicator expressing the probability of a pupil completing and passing upper secondary education controlled for background variables such as points from compulsory education. Hedmark is a county with low education levels among the population and will therefore perform worse when it comes to completed and passed education compared to counties with higher education levels. The school contribution indicator corrects for this.

The data presented has been quality-assured by Statistics Norway, the Norwegian Directorate of Education and Training and Hedmark County Council. This ensures good statistical validity of data. Furthermore, there is reason to believe that the validity of the concept is also closely linked to the objective of pupils completing and passing upper secondary education. The inherent validity associated with the possibility of arguing causality is weaker as there is no research design to satisfy the criteria. However, at the same time, it is possible to argue in favour of causality as the basis for comparison comprises all other upper secondary schools in Norway. The external validity linked to generalisation possibilities in the findings from other counties in Norway will be relatively satisfactory as all schools in Hedmark are included and no additional resources have been added to the schools during the period. The results presented will also have relatively good reliability, provided that schools and county councils report correct figures. As the reporting has taken place over a long period of time, there are reasons to believe that there is limited misreporting.

The results presented will be at county level only and it is therefore not possible to identify schools, teachers or individual pupils. Nevertheless, the decision to identify Hedmark County Council was made in consultation with the County Education Officer.

Results for upper secondary education in Hedmark

The results within the selected indicators are presented below to document the developments Hedmark linked to the objective for more pupils to complete and pass upper secondary education. All indicators are linked to results for pupils and based on reported statistics at pupil level.

Proportion of pupils completing and passing upper secondary education

The trend in the proportion of pupils completing and passing within two years of the standard period is based on statistics from Statics Norway (Innlandet County Council, 2021). The figure below shows the trend for Hedmark over a period compared to other counties in Norway. The year groups shown represent the trend from 2008 until the establishment of Innlandet County in 2020.

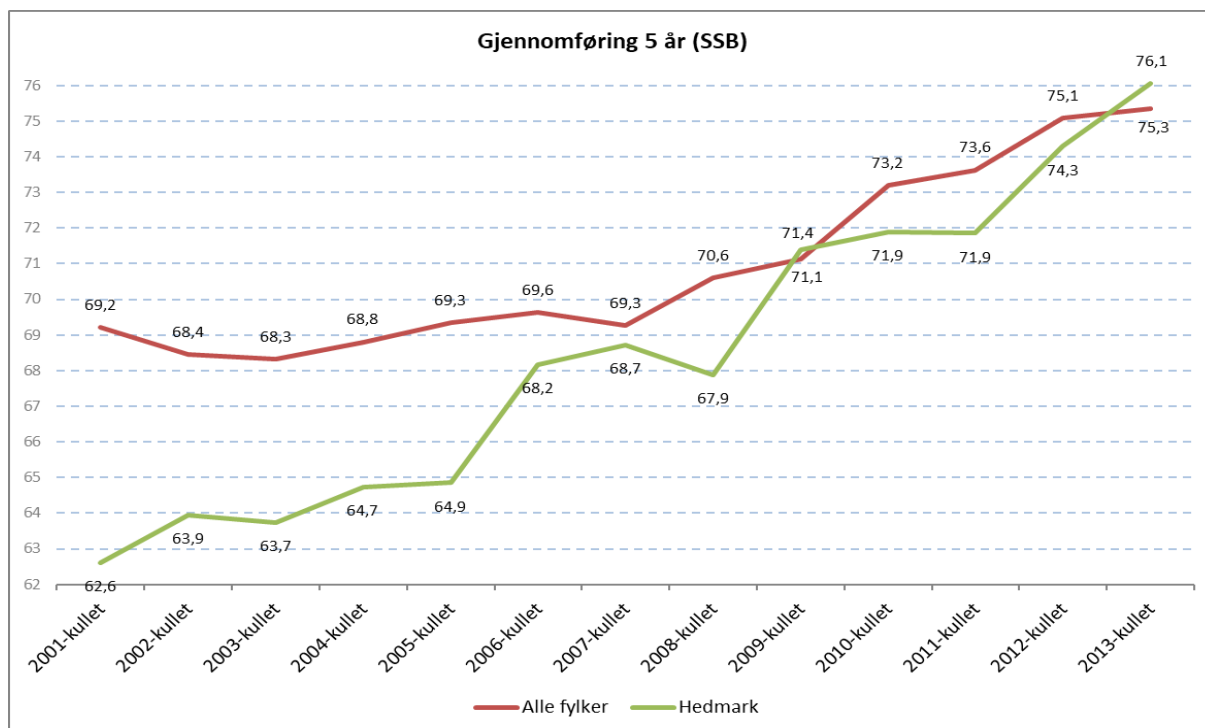


Figure 1: Proportion of pupils completing and passing within two years of the standard period.

This graphical representation shows that upper secondary schools in Hedmark have, overall, experienced an increase in the number of pupils completing and passing of 11.6% from the 2003 intake to the 2013 intake. Based on this representation, we can also see that the increase in the proportion of pupils completing and passing has primarily remained stable for the duration of the period. Nevertheless, there was a decline for the 2008 intake and this resulted in discussions and political desire to change strategies. Following discussions, it was agreed that work would continue in accordance with the same principles as previous years and that neither the objective nor approaches would be changed.

When Hedmark County is compared to the rest of the country, we can see that there were 4.6% fewer pupils completing and passing in Hedmark at the start of the period. For the last intake, however, 0.8% more pupils completed and passed in Hedmark compared to other counties. This results in a relative increase of 5.4% for the county compared to the national average of pupils completing and passing. If we use the average of other county councils as a comparison group, this shows that Hedmark has experienced a much more positive trend in pupils completing and passing than the rest of the country. Both the real progress and the trend compared to other county councils demonstrate such a high degree of goal attainment. The consequence is that around 290 more young people now complete and pass upper secondary education compared to 2008, thereby gaining greater access to the labour market and greater opportunities for further education.

The main variable for whether pupils complete and pass upper secondary education is the number of points from compulsory education the pupils left compulsory education with (Utdanningsspeilet, 2020). Points from compulsory education are calculated as the average grade from all subjects times 10. During this ten-year period, primary and lower secondary school pupils in Hedmark did not improve their points from compulsory education compared

to the rest of the country. This means that the improvement in the number of pupils completing and passing upper secondary education in Hedmark cannot be explained based on an increase in points from compulsory education and thereby improved achievements on the part of pupils.

Proportion of pupils completing by academic year.

A crucial prerequisite for pupils to complete and pass upper secondary education is that they complete each academic year. Below is a graphical representation of the trend in the number of pupils passing per academic year in Hedmark until 2018/2019 and how many more pupils complete and pass compared to 2010/2011 (Innlandet County Council, 2021). Pupils who do not pass are either missing assessment data or have a grade of 1, which is a fail.

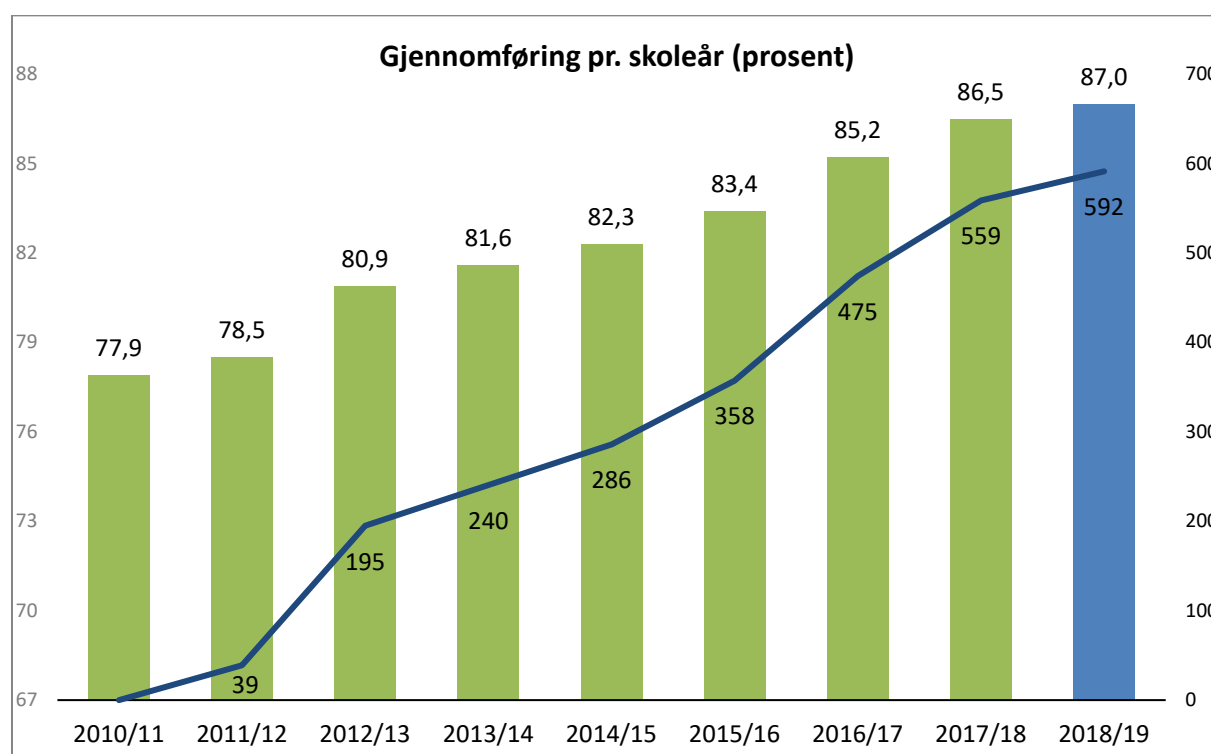


Figure 2: Completion by academic year

The figure shows that there has been a consistent and positive trend in how many pupils complete each academic year. From 2010/2011 to 2018/2019, it has increased by 9.1% and this is largely consistent with the increase in the proportion of pupils completing and passing upper secondary education. The figure also shows that, in 2018/2019, there were 592 fewer young people completing each academic year than in 2010/2011. This trend is not only a percentage, it also has a direct impact for each young person affected. Of the young people who do not pass each academic year, an average of 40% restart VG1 or VG2, while approximately 60% drop out of upper secondary education entirely (Utdanningsspeilet, 2020). This means that approximately 350 more pupils remain in upper secondary education in Hedmark now compared to 2010/2011. It is also important to emphasise that the pupil data based on points from compulsory education has not changed compared to the rest of Norway.

School contributions in upper secondary education

School contribution indicators are developed by Statistics Norway for the purpose of illustrating the school's contribution to pupils' learning. Here, the expected results for pupils are compared to actual results. In this way, we end up with an expression of whether the school contribution is greater or lesser than the average of upper secondary schools in Norway. This is shown below for both programmes for general studies and vocational programmes for 2018/2019. Hedmark County Council is the column on the left in both representations.

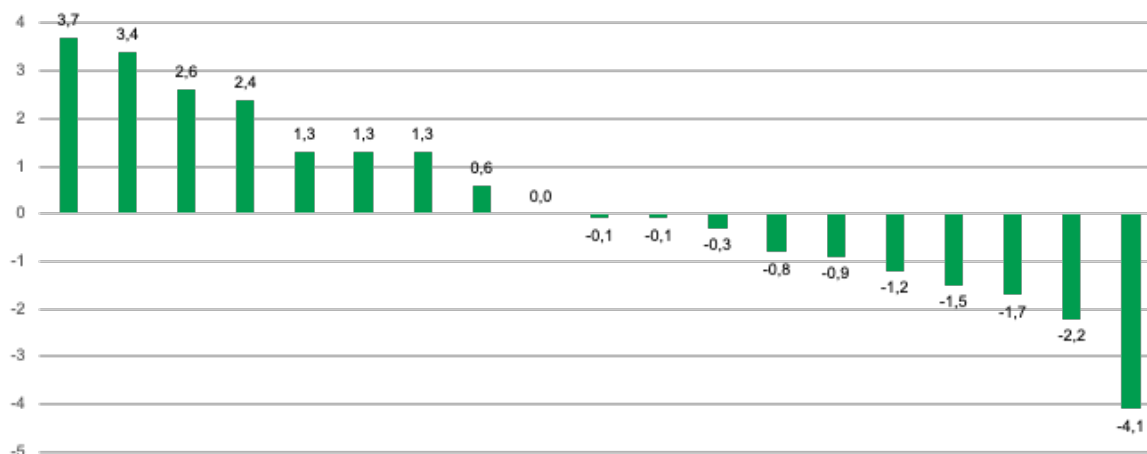


Figure 3: School contribution – programmes for general studies

This representation shows that upper secondary schools in Hedmark have contributions in programmes for general studies of 3.7 (column on the far left) compared to the average in Norway. Furthermore, the school contribution is 7.8 better than the lowest scoring county. This shows that pupils from the same background are 7.8% more likely to complete and pass programmes for general studies in Hedmark than in the country with the lowest contribution.

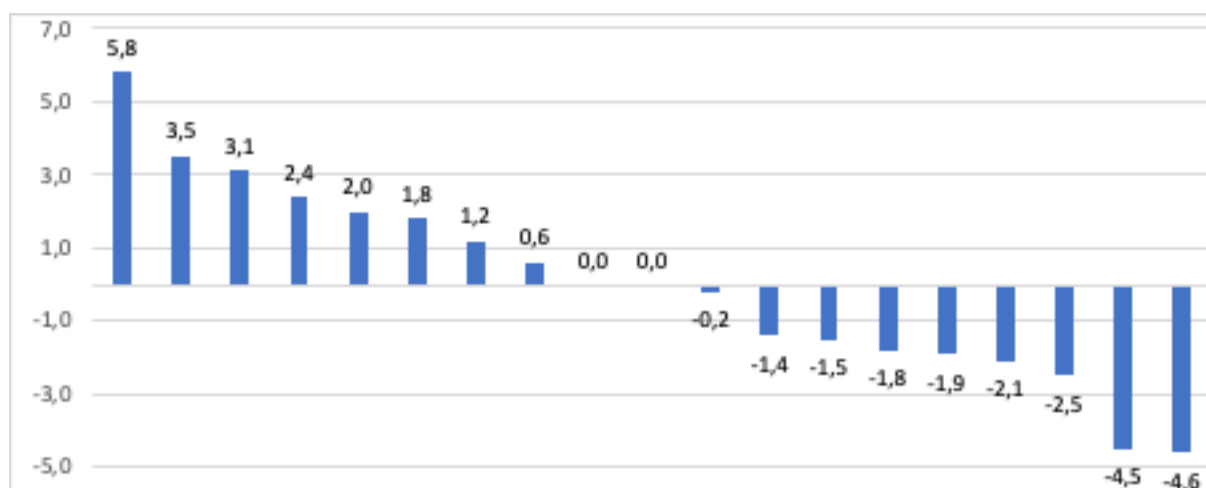


Figure 4: School contributions – vocational programmes

Within vocational programmes, the school contribution of upper secondary schools in Hedmark (column on the far left) is 5.8 better than the average in Norway. Pupils from the same background in Hedmark will be 10.4% more likely to complete and pass vocational programmes in Hedmark compared to the lowest scoring county.

Overall, these school contributions are largely consistent with the trend in the proportion of pupils completing and passing upper secondary education. Compared to the educational level in the county and the number of points from compulsory education, upper secondary schools in Hedmark help more pupils improve than other counties in Norway. This is also expressed in the quote from Utdanningsspeilet (2020) below, especially when we look at pupils with a low number of points from compulsory education:

Taking into account pupils' results from primary and lower secondary school, there are still major differences between the counties, particularly for pupils with weak results. Of pupils with less than 30 points from compulsory education, 27 per cent have completed within two years of the standard period in Nordland, while the corresponding proportion in Hedmark and Telemark is 46 per cent.

The increase in the proportion of pupils completing and passing upper secondary education, the increase in the number of pupils passing per academic year and the relatively high school contribution underpin one another and show that it is both valid and reliable to claim that the results in upper secondary education that are linked to completed and passed have improved significantly from 2008 to 2020.

The results presented here are the average for all 16 upper secondary schools in Hedmark. Nevertheless, there is some variation in the trends at each school. Some schools show clearly more positive progress than other schools both in terms of the proportion of pupils completing and passing after five years, the number of pupils who complete per school and in school contributions (Innlandet County Council, 2021). It may appear that there is a pattern between how the schools have worked on school development during these years and the results achieved, but this would require further research through dedicated collection and analysis of data.

Discussion

Below, we will discuss the possible correlations between any educational initiatives and approaches used and the documented results achieved. It is important to note that we will discuss possible correlations and that causality is not documented.

Several external framework factors and variables exist that could explain an improvement in pupil results. One possible factor is a clear improvement in upper secondary schools' financial conditions. The financial situation surrounding upper secondary education in Hedmark County Council has been approximately the same as for the other county councils and provides little explanation for the results. Another possibility is that points from compulsory education during the period have increased more among pupils in Hedmark than pupils in other counties in Norway. Nevertheless, this has not been the case and cannot explain improvements in the proportion of pupils completing and passing. The level of education among parents has also not changed through e.g. high levels of migration. On the contrary, the county has experienced a negative migration trend. There have also been no changes to school structures during this period. But there is little reason to believe that a stable school structure would yield such

improved results. Another possibility is that the improvement in the proportion of pupils completing and passing could be due to the fact that the average marks have improved but not examination results. This has not happened and there has been a continuous levelling of the relationship between average marks and examinations at schools.

When it is difficult to show correlations between external framework factors and achieved results, this indicates that the results could be associated with the school development efforts that have taken place. This is supported by the school contribution indicator, which shows that the school contribution of upper secondary schools in Hedmark is the best in Norway for both programmes for general studies and vocational programmes. In order to discuss this, the educational initiatives and approaches in school development will be discussed based on the Fullan and Quinn (2016) model for continuous school development and from a system-wide approach.

The development work has extensively emphasised school leadership through a separate leadership training programme comprising seminars and guidance for the leadership teams at each school. The school owner has also set clear expectations for the schools throughout the entire period. Furthermore, completed and passed has been an explicit, common overall objective from ownership level to leadership level to employee level. This objective was also thoroughly embedded throughout the teacher organisations. The systematics related to the use of data, school visits and expectation indicators have provided a form of external accountability, but there is no available data to show whether or not this has contributed to internal accountability. Nevertheless, based on theoretical and empirical approaches, there are grounds to believe that this may have taken place (Fullan & Quinn, 2016; Bernhardt, 2013).

Developing and sharing expertise through professional learning communities has been a guiding principle at all levels. Such professional communities were established between the ownership level and a selection of headteachers, between headteachers, between heads of department and headteachers at each school and between teachers in different departments at schools. Skills development on work in professional learning communities has been provided and the collective skills development for teachers used professional communities as a key instrument. At the same time, it is not necessarily the case that work and skills development in professional learning communities lead to changes in practice (Jenssen & Nordahl, in publication). The focus on changes to educational practices has also taken place through supervision and observation, as well as through the more direct strategies, such as the vocational orientation of communities through the identification, mapping and monitoring project. All teachers who teach joint subjects in vocational programmes have participated in seminars on the vocational orientation of the subjects and there have been clear requirements to implement identification, mapping and monitoring, which has resulted in changes to how pupils with challenges are managed at school.

It is important to emphasise that these educational initiatives and approaches have largely taken place in parallel. There have been no individual initiatives in schools, but there have been systematic efforts in a number of areas at all schools and all levels at the same time. Emphasis

has been placed on the different efforts pulling in the same direction and being closely linked to one another. There is a high probability that this will increase the possibilities of yielding results at pupil level (Robinson, 2018; Fullan & Quinn, 2016). Overall, it can therefore be argued that these cohesive, system-wide school development efforts are linked to the marked improvement in pupil results.

From a school development perspective, the decisions, implementation and monitoring of educational efforts and approaches show some degree of external governance. Nevertheless, there has also been dialogue and opportunities to influence. This relates in particular to the dialogue between the school owner and school leadership team. Throughout the period, four headteachers were selected to represent other headteachers in dialogue and discussions with the school owner. Furthermore, the school owner also organised seminars for all school leaders in the county. This has allowed different views to be raised and the dialogue has also contributed to anchoring. However, even though there has been dialogue and contribution, the external governance of the schools has likely been stronger than the internal and more bottom-up oriented development.

There are also grounds to argue that the prolonged period during which the school development took place has likely also had an impact on the results. There have been no changes to the objectives during the period – on a political or administrative level – and work was systematic throughout the period. It may appear that systematic work over time yields results and that such work would also result in changes to school cultures. Systematisation over time may therefore have contributed to an institutionalisation of the educational efforts at schools (Fullan & Quinn, 2016).

Throughout the period, the county council also obtained external support from individuals and specialist environments outside of upper secondary education in Hedmark. In implementation research, this is considered a key prerequisite for success (Dyssegaard, Egelund & Sommersel, 2017). These external environments have contributed to the networking groups that were established, seminars for headteachers and owners, seminars for school leadership teams, at individual schools, the development of skills development pathways and support for school leadership teams. The external support may also have had an impact on the cohesion and systematisation of the school development.

Attempts have been made here to argue that there is a correlation between the results achieved in upper secondary education in Hedmark and the educational initiatives and strategies that have been implemented. Overall, it may appear that there is a correlation between system-wide, cohesive school development over time, with a certain degree of external governance, and the fact that the proportion of pupils completing and passing upper secondary education in Hedmark has increased significantly.

For further research on pupil results in upper secondary education in general and Hedmark in particular, it will be crucial to ensure that this type of development project is monitored using parallel research designs that can document possible effects. Upper secondary education is

becoming increasingly important for young people's subsequent participation in working life and further education. Documentation of effective strategies can contribute to more county councils and upper secondary schools conducting evidence-based school development in the best interests of young people's quality of life and to maintain the welfare state. The improved results in Hedmark have likely contributed to greater participation in society and less exclusion and research should therefore be initiated into how this can be explained.

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