Organizational Challenges for Schools in Rural Municipalities: Cross-National Comparisons in a Nordic Context

Tommy Lind
Olof Stjernström
Umeå University

 In this study, the spatial structure of primary schools and alternative organizational frameworks are studied in a number of rural municipalities in the northern parts of Norway, Sweden, and Finland. The aim of the study is to investigate how the spatial structure of schools has changed between the years 2008 and 2013 in these municipalities, what strategies the municipalities have developed to adapt their schools to changing conditions, and what constraints there are to apply the strategies at the local level. To answer these questions, semi-structured interviews with municipal representatives were conducted. Substantial changes to the spatial structure of school organizations through closures and mergers can be observed. The overall strategy for the future in all three national settings is a spatial structure with well equipped and well staffed schools in municipal centers and as few small village schools as possible, using information and communication technology (ICT) as a distance-bridging technology. The constraints to applying these strategies are on three different spatial levels. At the state level, the state places constraints regarding what municipalities and schools can and cannot do. At the municipal level, local politicians do not want to close schools for fear of losing the next election. At the community level, the constraints mainly lie in the resistance and strong social capital of the inhabitants who are focused on keeping their schools open irrespective of per capita costs.

In general, the Nordic countries are characterized by comparatively advanced organizational frameworks for the provision of a wide range of welfare services (Lidström, 2003). These policies are rooted in distinct decision making at the central government level since the mid-twentieth century and are part of what has sometimes been labeled the Nordic Welfare Model. One of the challenges over the years has been the handling of rather large disparities between municipalities in terms of population figures, settlement structure, and demographic composition. A further critical dimension has been adaptability to population change

(Gløersen, Dubois, Copus, & Schürmann, 2006). Thus, a continuous key task is to balance changing numbers of people in target groups, quality aspects, accessibility options, and costs (Woods, 2006).

Primary education and proximity to school facilities are essential cornerstones in a welfare society. Rural schools face increasing challenges in relation to shrinking populations, isolation, and distance (Hannum, Irvin, Banks, & Farmer, 2009; Johnson & Strange, 2007; Woods, 2006). Depopulation in rural areas also has a negative impact on community resources (Hannum et al., 2009). Other important issues related to learning in rural areas are difficulties in offering upper-level courses and courses requiring special competence because of economic and human capital restraints (Hannum et al., 2009). Hammer, Hughes, McClure, Reeves, and Salgado (2005) report that rural schools often experience difficulties in attracting qualified teachers. Even though the context of Northern Europe is slightly different from the North American and British contexts, the challenges for rural schools are similar and often even more problematic (Åberg-Bengtsson, 2009, Kvalsund, 2009, Kalaoja & Pietarinen, 2009).

Critical dimensions of a school organization in a rural area are the distances between schools and pupils and modes of transportation, in particular in relation to

the youngest pupils (Reeves, 2003). Long distances imply lengthy journeys, which reduce the time left for recreational activities, socializing with family members, friends, and so forth (Fox, 1996; Howley, Howley, & Shamblen, 2001). Spatial organization is particularly critical in areas with sparse settlement patterns and large internal distances.

Different distance-bridging technologies in school education have been applied in many countries with positive results, and small differences in quality between classroom instruction and distance learning have been observed (Bernard et al., 2004; Johnson & Strange, 2007). Nevertheless, applying alternative school forms and distance-bridging technologies also has constraints, mainly associated with limited economic resources and the legal organizational framework on a national level (Hannum et al., 2009).

In this study, the spatial structure of primary schools and alternative organizational frameworks are studied in a number of rural municipalities in the northern parts of Norway, Sweden, and Finland. Using this approach, we can also identify different types of experiences and learning potentials across national borders. In recent decades, rural municipalities in the north of Europe have experienced negative development in terms of shrinking and aging populations, increasing costs per capita, and difficulties related to maintaining service production. These developments also challenge the school sector and the obligations municipalities have to provide school services in accordance with national standards. In light of these challenges, we address the following specific questions.

1. How has the spatial structure of schools changed between the years 2008 and 2013 in the areas studied?
2. What strategies have the municipalities developed to adapt the schools to changing preconditions?
3. What are the constraints associated with applying distance-bridging technologies and other alternative strategies at the local level in the study areas?

Literature Review

Primary Schools in Rural Areas

The general dilemma for planners is how to spatially distribute school resources, whether to concentrate or disperse them in relation to where people live. In many villages in sparsely populated areas such as in Finland, Norway, and Sweden, the school is the last basic service left (Woods, 2006). The number of schools in rural areas is decreasing, and schools are being concentrated to urban areas in all three countries. For instance, the number of small rural primary schools (fewer than 50 pupils) in Finland decreased from approximately 1,800 in 1995 to 1,100 in 2003 (Kalaoja & Pietarinen, 2009). Similar trends can be observed in most developed countries (Kučerova & Kučera, 2012; Woods, 2006).

Educational facilities in rural areas are usually limited to preschools, primary schools, and lower-secondary schools. Motives for closures are usually a combination of a lack of economic resources and a declining pupil base, although another motive can sometimes be substandard quality of teaching (Marklund & Westerlund, 2009), mainly due to difficulties attracting qualified teachers (Hammer et al., 2005). A closure may facilitate the recruitment and retention of competent personnel in remaining schools. However, one disadvantage to this strategy is lower accessibility standards, which may worry households living in remote places, in particular if they lack reliable transport options.

Studies concerning schools in rural areas have analyzed approximately similar spatial contexts as those highlighted in this study. Reviews of small rural schools in Sweden (Åberg-Bengtsson, 2009), Norway (Kvalsund, 2009), Finland (Kalaoja & Pietarinen, 2009), England (Hargreaves, 2009), and Scotland (Dowling, 2009) show that the schools have managed to meet national criteria for educational quality in terms of pupil achievement, quality of teaching, and pupil behavior. These studies therefore do not suggest that large and expanding municipalities in general provide better school quality than small and declining municipalities. However, other research has indicated that pupils in very small schools appear to learn less (Lee & Smith, 1997) and are considered to be disadvantaged (Rossi & Sirna, 2008).

Close proximity to child care and primary schools, at least at low and middle levels, is also regarded as a great benefit to people in rural areas. One may hypothesize that the absence of a school in a local community makes it less likely that young families will settle or stay. There are studies that show that the survival of the local school and the local community are often linked (Lyson, 2002).

Nonetheless, the disappearance of rural schools is not always followed by out-migration. In a study of rural school closures in Sweden between 1990 and 2004, Amcoff (2012) finds no significant effects on in- or out-migration patterns either in the school's immediate surroundings or its wider catchment area. The conclusion is a child has to travel a distance of 10 kilometers or 20 kilometers to school makes little difference in the overall decision to migrate. The presence of a school is just one of many factors which determine migration patterns. However, Amcoff concludes that extreme distances, which partly exist in the northern inland of Sweden, might be a special case. These results are in line with a qualitative study in Denmark by Egelund & Laustsen (2006). They could not find any major effects

caused by closures. They argue that it is the lack of people in the vicinity that is the reason for decline, and that a school closure is the last phase in the death of a community rather than its cause. Post and Stambach (1999) argue similarly that diminishing communities can lead to school closures. People who move to the countryside do not expect many services (Stenbacka, 2001), which could partly explain the lack of effect on migration patterns.

Organizational Alternatives and Distance-Bridging Strategies

A study of schools in rural areas of Norway and Sweden (Thelin & Solstad, 2005) shows that it is possible to arrange good quality alternative organizational solutions in rural areas, but it takes time, requires work, and costs money. Lee, Smerdon, Alfeld-Liva, and Brown (2000) examine both the economic aspects of smallness and how it affects the organizational systems of schools. They see results that lead to different conclusions. While studies with an organizational focus favor small schools, research with an economic focus tends to suggest benefits from increased size. This contradiction makes decision making difficult for school executives. Nitta, Holley, and Wrobel (2010) report that both pupils and teachers see benefits from consolidation. Pupils have more courses from which to choose and a larger social network, while teachers can focus on fewer courses and have better opportunities to develop professionally.

Some pupils in rural schools in Australia claim that they are missing out on educational opportunities that urban-based pupils have, which could subsequently lead to fewer career choices (Alloway & Dallet-Trim, 2009). Rural schools often have fewer optional courses available and fewer specialist teachers. The use of information and communication technologies (ICT) may, to some extent, reduce the disadvantages that rural schools face (Anastasiades & Filippousis, 2010; Reading, 2009; Trinidad, 2006; White & Johnston, 2008). The use of video conferencing systems in particular has been shown to be an effective way of supporting distance teaching (Anastasiades & Filippousis, 2010; Hannum et al., 2009; Williamson, Miller, & Stokes, 2009). Another approach used in New Zealand and Newfoundland, Canada, is the creation of virtual classrooms with small groups of expert teachers providing support to a large number of rural schools (Hargreaves, Kvalsund, & Galton, 2009). A strategy implemented in South Australia combines video conferencing and interactive whiteboards with audio connections for conducting classes in real time (White, 2010). The pupils interviewed were positive towards this and commented that without ICT they would probably not be studying those particular subjects. The ability to interact with teachers in real time was seen as a key factor.

There is also an interesting Swedish reference. In the municipality of Pajala, remote teaching has been used in grades 6 through 9 for German, French, and Meänkieli (a local language) in three schools. It has also been successfully used for subjects such as social sciences, science, English, and mathematics at one of the more remote schools (Häll, Hällgren, & Söderström, 2007), and, overall, attitudes among the pupils are positive toward the use of distance education. The municipality has generated savings because of lower staff costs. For remote education to succeed, Häll et al. (2007) see technical infrastructure and intra-municipal cooperation as vital prerequisites.

Schools and Social Capital in Rural Areas

The essential components of civil society are safety, participation, transparency, and access to services. To some extent, this perspective relates to the concept of social capital, which, in this case, can be defined as a social organization that facilitates coordination and cooperation for mutual benefit or, as the Organisation for Economic Co-operation and Development (2001) puts it, "networks together with shared norms, values and understandings that facilitate cooperation within or among group" (p.41). Social capital is built through interactions within and outside the communities, and the location of primary schools plays a vital part. Putnam (1995) argues that public policy can have a huge effect on social capital and has the ability to both construct and destroy it. School closures have administrative and economic incentives. Nonetheless, Putnam argues that if we take lost social capital into account, these policies may have a more negative result. Furthermore, Putnam refers to research that shows that successful educational outcomes are more likely in civically engaged communities.

Kilpatrick, Jones, Mulford, Falk, and Prescott (2002) classify different ways in which rural schools can make an impact on their communities. The first way is economic, through employment and the use of local goods and services. The second is by providing a sense of identity through events such as school plays, concerts, etc.: Schools have a social effect. Third, they may act as delivery points for services and as a resource for community development when used as a facility for adults or for providing pupils with entrepreneurial skills that they can later use to meet community needs and wishes (Autti & Hyry-Beihammer, 2014; Kilpatrick et al., 2002; Woods, 2006). Autti and Hyry-Beihammer (2014) report a decline in social capital in rural Finnish communities after school closures as they decreased the possibility to interact with other members of the community. Woods (2006) notes that rural schools are often referred to as places of significant local value or symbolic meaning for the local community, components that are essential for the development of social capital. He

also argues that these circumstances partly explain local campaigns that are organized in response to decisions to close rural schools. Supporters of small schools tend to emphasize the impact of closures on rural communities both functionally and symbolically, while proponents for rationalization focus on the perceived pedagogical benefits and advantages of scale of larger schools (Woods, 2006).

Local Context

Sweden, Norway, and Finland are all unitary states and represent the North European welfare system. This system is typified by substantial local self-government in which municipalities have a large legal role combined with a strong connection to the central level. The municipalities are responsible for the actual implementation of primary education, and they all have centralist school systems that share many similarities (Lidström, 2003). A three-country comparison enables a better understanding of how local authorities in different national settings are able to meet the challenges related to negative development in terms of demographic changes, depopulation, and long distances to central power, which characterize the case study areas in the present study. The relationship between local and central levels, to some extent, limits the municipalities' capabilities to develop locally adapted solutions.

The empirical case comprises three municipalities in the interior of the county of Västerbotten in Sweden, two municipalities in the county of Nordland in Norway, and three municipalities in the province of Österbotten in Finland (Figure 1). The Swedish municipalities—Åsele, Vilhelmina, and Dorotea—are geographically much larger than the other areas studied and are also located farther away from their regional centers. A large majority of Åsele's inhabitants live in or adjacent to the municipal center but some live up to 70 kilometers away. In Vilhelmina and Dorotea, the corresponding maximum span is approximately 100 kilometers.

The three Finnish municipalities are Kaskö, Kristinestad, and Närpes. Kaskö is the smallest municipality in Finland both in terms of territory and number of inhabitants, and it is made up of one small town. While its internal distances are small, it shares similar characteristics with the other municipalities, including depopulation and an aging population. A specific feature of Kaskö and Kristinestad is the presence of bilingualism, and both have Swedish- and Finnish-speaking inhabitants. Consequently, these municipalities must provide education for two sets of pupils, and, as the teaching language is either Swedish or Finnish, they are often unable to share teachers, which causes organizational problems. In Kristinestad and Närpes, the furthest internal distance from the municipal center is 40 kilometers.

Due to its hilly landscape, fjords, road distances, and journey times, the areas in Norway are comparable with the Swedish areas studied. In Hamaröy, a majority of the population lives in the municipal center of Oppeid and three other villages. The distances between them are up to 40 kilometers. Steigen has a small concentration around the administrative center of Leinesfjord but has otherwise a rather scattered population throughout the municipality. The furthest internal distance from the municipal center is 40 kilometers.
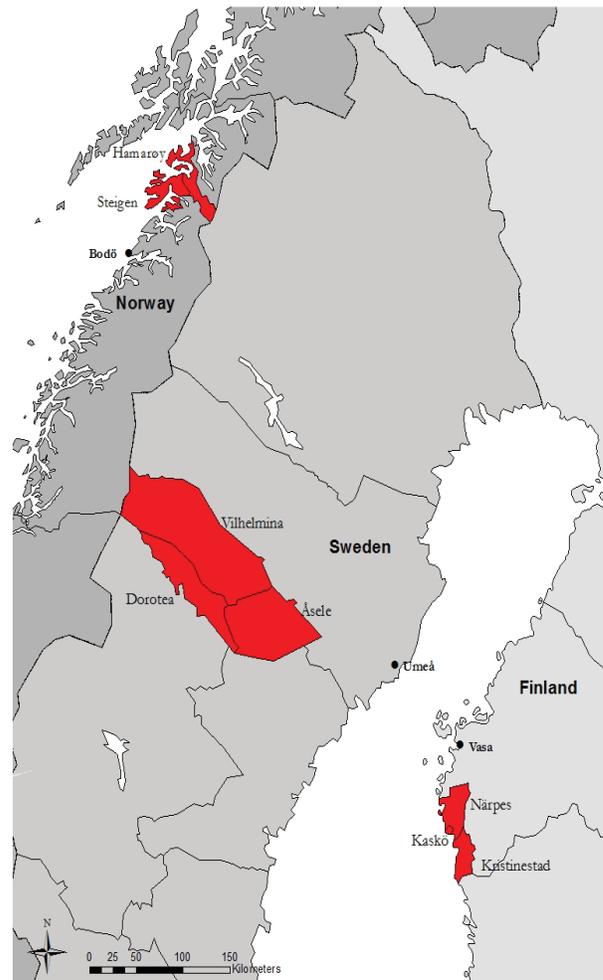
Figure 1. Locations of the areas studied.

The municipalities face escalating problems in arranging the provision of various types of services to meet the needs and expectations of their inhabitants. From 2000 to 2013, there was a decrease in population (between -4.4% and -20.6%), while the respective counties had a slightly positive trend mainly because of growth in the regional capitals of Bodø in Norway, Umeå in Sweden, and Vasa in Finland. Municipal demographic structures are also

severely distorted, with a much higher proportion of elderly people compared with the respective national averages, and a lower proportion of people of working age, both of which affect local tax revenue. The reduction in population has also led to less income for the municipalities, thus affecting service production. It may also be noted that the Finnish areas have very small numbers of people aged 0-19 (Table 1). Furthermore, a continued negative future trend for most of the areas studied is forecast in projections by the national bureaus of statistics.

A closer look at different age groups of young people (Table 2) reveals that some of the municipalities increased slightly in one age group (16-19 in Hamaröy and Åsele). Nonetheless, overall, there was a large decline. Furthermore, it can be noted that the small number of children in the youngest age group (0-6) indicates that the coming years for schools will be challenging unless there are dramatic increases in the net-migration flows. In this study, a large school has roughly 200 pupils or more, a normal school around 60, and a small village school fewer than 20 pupils. The smallest school in this study had 6 pupils in grades 1 through 6.

Empirical Material and Methodology

This study is based on semi-structured interviews. Interviews were chosen to enable a deeper understanding and analysis of the situation in different local contexts. The informants are either municipal executive managers, executive managers in the school sector, or principals in the municipalities studied. The municipal executive managers have a broader strategic role, while the school managers and principals are more up-to-date with everyday school activities. Together, they are experts in the local school sector and are therefore considered to be the best respondents. Furthermore, a manager of an innovative distance-bridging project in one of the Swedish municipalities studied was interviewed.

The interviews were undertaken from May to November 2013. Seven interviews were undertaken in Sweden, six in Finland, and four in Norway—basically two interviews per municipality. They were conducted on site or by telephone and lasted between 30 and 90 minutes. The interviews were audio recorded and transcribed. The material collected reflects both the strengths and weaknesses of current conditions and also forms an informational platform for transnational comparisons and the consideration of learning potentials.

The following main questions were addressed.

- What are the biggest challenges facing the school sector?
- Has the municipality developed any strategies to cope with the demographic trends and meet long-term national goals?
- What alternatives are you considering?

Using a broad coding scheme, the data were organized by country, municipality, and role of the respondent. In this way, the most pressing issues for each group could be

Table 1

Population Structures in the Areas Studied 2013

Country	Municipality	Total Population (2013)	Population Change 2000-2013 (%)	Demographic Structure (2013) %		
				0-19	20-64	65-w
Sweden	Dorotea	2757	-17.7	20.0	49.7	30.1
	Vilhelmina	6887	-13.0	22.5	53.5	23.9
	Åsele	2875	-20.6	20.0	49.2	30.7
Finland	Kaskö	1350	-13.7	15.4	55.2	29.3
	Kristinestad	7001	-13.3	17.4	52.8	29.9
	Närpes	9335	-4.4	19.2	53.3	27.5
Norway	Hamaröy	1820	-9.4	21.5	55.4	23.1
	Steigen	2579	-13.3	21.6	54.9	23.5

Sources: Statistics Finland, Statistics Norway, Statistics Sweden, 2014

Table 2

Detailed Demographic Structure 2000 and 2013 in the Areas Studied

Country	Municipality	Age	2000	2013	Difference	Difference (%)
Sweden	Dorotea	0 - 6	179	177	-2	-1
		7 – 15	423	226	-197	-47
		16 – 19	160	115	-45	-28
	Vilhelmina	0 – 6	561	493	-68	-12
		7 - 15	1018	699	-319	-31
		16 - 19	445	360	-85	-19
	Åsele	0 - 6	233	145	-88	-38
		7 – 15	405	268	-137	-34
		16 – 19	161	162	**1**	**1**
Finland	Kaskö	0 - 6	81	61	-20	-24.6
		7 - 15	163	96	-67	-41.1
		16 - 19	97	51	-46	-47.4
	Kristinestad	0 - 6	561	394	-167	-29.8
		7 – 15	906	500	-406	-44.8
		16 – 19	401	323	-78	-19.5
	Närpes	0 – 6	631	604	-27	-4.3
		7 - 15	1012	769	-243	-24
		16 - 19	443	415	-28	-6.3
Norway	Steigen	0 - 6	239	151	-88	-37
		7 - 15	376	256	-120	-32
		16 - 19	188	151	-37	-20
	Hamaröy	0 - 6	154	122	-33	-21
		7 - 15	262	159	-103	-39
		16 - 19	107	111	**4**	**4**

Sources: Statistics Finland, Statistics Norway, Statistics Sweden, 2014

determined. This analysis revealed three broad themes: (1) issues in rural schools, (2) social capital and local resistance to closures, and (3) alternative organizational approaches. The themes for the interviews are centered on the strategies the municipalities have implemented to adapt to changing preconditions. Special attention has been paid to exploring innovative policy measures to cope with the fragile circumstances.

Selecting the case study sites for this study was done in two steps. First, regions that could be identified as rural were chosen (the counties of Västerbotten in Sweden, Nordland in Norway, and Österbotten in Finland). Second, municipalities typical for the situation in the region and with comparable demographic situations were chosen. Another criterion was that the chosen municipalities should be neighbors in order to be able to see any cooperation between them. In addition, they had to represent as much as possible rural communities elsewhere in these three countries. The key structural similarities were depopulation, a demographic structure, and long distances to urban centers. The main difference was that the Swedish cases were more extreme. They had longer distances, were less densely populated, and had fewer schools outside their municipal centers.

Results

Changes in School Structure

In general, large changes in school structure and the closure of small village schools because of significant

Table 3

Number of Primary Schools in the Case Study Municipalities 2013

Country	Grades/ Municipality	1-3	1-6	1-7	1-9	7-9	1-10
Sweden	Vilhelmina		6		2	1	
	Dorotea		1		1		
	Åsele	1			1		
Finland	Kristinestad		6			2	
	Närpes		7			1	
	Kaskö		2				
Norway	Hamaröy	2					2
	Steigen			3			1

Sources: Informants.

reductions in pupil enrollment in recent decades can be observed in all three case study areas. Centralizing tendencies are clear. Outside the municipal center, there are schools in some larger villages and remote areas such as mountain range valleys. In the municipalities of Dorotea and Åsele in Sweden and Kaskö in Finland, only two schools remain, while the other municipalities have a wider distribution. This also means very small classes, particularly outside the municipal centers. Between the years 2008 and 2013, all the municipalities except Vilhelmina and Dorotea in Sweden have either merged or closed schools. Table 3 provides an overview of the number of primary schools and their profile of classes. Obvious patterns of weak spatial structures of schools were reported in the interviews in Vilhelmina in Sweden, Kristinestad in Finland, and Steigen and Hamaröy in Norway. The ongoing restructuring process is, however, increasingly challenged by economic conditions and the continued decrease in the number of pupils. In the interviews from Vilhelmina, Kristinestad, and Steigen, the shutdown of a number of schools was seen as the only alternative to maintaining a good standard in the remaining schools. In several other small municipalities with similar characteristics in the county of Västerbotten in Sweden, village schools have recently been closed.

In Åsele in Sweden and Hamaröy in Norway, we have examples from 2012 in which the structure in the village schools has changed from having grades 1 through 9 to only having grades 1 through 3 because of fewer pupils and high per capita costs. Hamaröy, which has had a large decrease in the number of pupils between 2000 and 2013 (Table 2), has also restructured its schools; two of them, which previously had classes in grades 1 through 10, now only have classes in grades 1 through 3.

Economic and Competence Issues

Per capita costs in the Swedish areas have been clearly above the national average during the whole period, and at present the per capita costs in Vilhelmina and Dorotea are among the highest in Sweden (Kommunoch landstingsdatabasen, 2013). According to the respondents, the Norwegian and Finnish areas also have per capita costs above the national average. Along with the demographic changes, the Norwegian government has changed the revenue system. Before 2000, the state paid 85% of the costs regardless of the structure or cost, but now it is much more focused on keeping costs down. There is no doubt that the lack of economies of scale and coordination opportunities contribute to higher costs. Education legislation also imposes certain minimum requirements that all schools must meet, regardless of size. A school manager in Sweden states, "Many argue that we have a large school with 300 pupils, but in general terms that is not a large school in Sweden."

Besides the number of schools and the decline in the number of pupils, there are other critical issues at play in all the case study areas, including major challenges related to overcapacity of classroom space, outdated facilities, difficulties in recruiting qualified teachers, and an aging population which increases the need to redistribute economic resources to elderly care. The staffing of qualified teachers is a concern that all respondents regard as a large and increasing problem because of retirements and greater demands from governments to have trained and experienced teachers. There is also a clear pattern of municipalities without a secondary school having bigger problems recruiting skilled teachers in, for instance, languages.

The internal distances in the Finnish municipalities studied are not as large as in the Swedish and Norwegian

cases, and depopulation is also generally lower. However, they have an additional problem caused by having two official languages, particularly in areas where there is a substantial Swedish-speaking population. Pupils are divided into Swedish-Finnish and Finnish groups and do not take the same courses or share the same teachers unless the teacher is perfectly bilingual and has passed a specific test.

Pedagogical Issues

Despite the problems and challenges clearly identified by the respondents, it is a fact that the overall quality of the schools within their municipalities is not inferior to schools in other parts of their respective countries. However, they express doubts concerning their ability to maintain a high level of quality in rural schools. One problem that the executive managers in the municipalities face is a lack of clear guidelines concerning the minimum level of acceptable functionality.

In the smallest schools (fewer than 20 pupils), it seems that pedagogical issues have become more urgent. A principal in a Swedish municipality says,

> If you have one pupil in first grade, one in fourth grade, two in fifth grade, and one in sixth grade, the group becomes too broad age-wise. If you compare it to what we do in the central school, you can see how much less they do in the small village school. It is important for the pupils to be able to discuss, but how can they do that when they are alone in their class?

Moreover, a municipal manager in Sweden says, "When you have really small schools, it is difficult to retain certain teaching skills, a certain volume makes a lot possible." A school manager in Finland argues that the small schools do as well qualitatively, but those with very few pupils—i.e., 20 or fewer—are not as good as those with 60 or more, which have more than one teacher. On the other hand, she also notes that larger schools may have more types of other issues such as bullying and other social problems.

Social Capital and Local Resistance to Closures

In general, respondents report that primary schools are extremely important both politically and socially. The multidimensional role of the rural school in creating and upholding social capital often makes decisions regarding closures or other changes the hardest—and the ones which meet with most local resistance. As both individuals who live close to threatened schools and citizens in general are very negative towards closures, politicians do not often dare

close them. A Norwegian municipal manager expressed this dilemma in the following way.

> The trend is toward centralization, but local communities are fighting against it as much as possible. It means so much for the community, not only as a school but as the focal point for the community. There is also a clear political will to maintain all schools.

This trend can be seen as an expression of vital social capital in the villages, strengthening their ability to withstand the pressure and threat of closure. The people there consider their school as a crucial factor in creating and sustaining a local identity and community. The argument from various activist groups in the municipalities studied is that changes in the school structure or closure of schools will lead to an accelerated migration process. In the cases in Norway, such effects have not been seen, which is probably because the additional distance pupils need to travel is only marginal.

This finding is in line with the previously mentioned results that Amcoff (2012) observed in Sweden. A change to the structure in the village of Fredrika in Åsele municipality in Sweden led to strong protests from people living there and, in the end, influenced some households to migrate and others to send their younger children to school in the municipal center. Some of the households in Fredrika wanted their children to go to the central school even before the closure because of what they believed to be better pedagogical conditions. However, the strong social capital and resistance to the central school influenced them to keep their children in the small village school. This result could be interpreted as a form of rural discrimination, as described by Woods (2006).

Alternative Organizational Approaches

According to the participants, a common approach is to strive for a well-equipped and well-staffed school in the municipal center and in as few village schools as possible. Nonetheless, because of long internal distances, some village schools must be kept open. To reduce costs, preschools and primary schools that offer grades 1 through 3 outside the municipal center have been or are planned to be merged in several of the municipalities. Another strategy is inter-municipal and intra-municipal cooperation between schools.

To solve the specific language issue in the Finnish case, Kristinestad has proposed a campus idea with a combined Swedish and Finnish primary school in one building. Both groups would have their own classes, but it would be easier for the pupils to socialize and learn languages. This

approach would also reduce some of the costs, for example, by using the school building in a more efficient manner. They are already applying this idea in Kaskö in Finland, which has led to, among other positive developments, more social interaction between the language groups.

In Dorotea in Sweden, a model is practiced where pupils in remote parts of the municipality spend a number of days each week in the village school and the rest of the week in the school located in the municipal center. According to interviews with the pupils carried out by a municipal civil servant, this practice has been met with positive reactions. It provides the pupils both with better possibilities of finding friends of the same age and more educational options specific to their age. Another alternative used in Vilhelmina in Sweden is to let the teachers commute to the remote schools to teach there. This strategy fulfills the educational requirements but has less social impact on the pupils.

Collaboration between municipalities is very limited at the primary school level, both in terms of pupils' studying at other schools and their sharing the same teachers. In this way, there are many similarities between Sweden, Norway, and Finland. A school manager in Finland notes, "There is not much collaboration with other municipalities, we have a tradition of being independent and not cooperating," although he also adds, "but in the future our only alternative will be to cooperate more."

As mentioned previously, collaboration with other municipalities can be a way of coping with the challenges. In Hamaröy in Norway, there was a proposal to allocate pupils based on settlement structure rather than administrative borders. The distance to the central school in Oppeid is very far for pupils in the most remote village school with a driving distance of up to 1.5 hours. But if they closed the school, the pupils would be able to go to the school in the nearest municipality, Sörfold, only 30 minutes away. This plan was stopped by the municipal council because of a wish to keep all pupils within the municipality, but they still might adopt the idea in the future.

A school manager in Sweden notes that equal size and equality of power are important for collaborations across municipal borders to work, and the areas of collaboration must also be very concrete. These trends can be seen in the examples of cooperation found in the case studies. They are all rather small and often target practical matters. In Finland, they collaborate regarding the curriculum as there is no need to have a specific one for each municipality. This strategy saves both time and money. The three municipalities in Sweden share one school psychologist, and Dorotea shares a textile teacher with its neighboring municipalities, Strömsund and Åsele.

Alternatives Based on ICT

One alternative is to have a school in a rural area that develops its content and form using ICT. One such effort, the *24-milaskolan*, (the "240-kilometer school," signifying the internal physical distance in the territorial setting) was started in autumn 2004 by Dorotea, Vilhelmina, and Åsele. The project used ICT to build a virtual network for staff and pupils. The goal was to maintain quality and equality in schools with a small pupil base despite diminishing resources. The participating schools were located in four small villages. The project progressed into another project, *Learning in Rural*, where the original network of three municipalities expanded to include six additional municipalities. In 2009, they applied for funding to be able to experiment with distance teaching in a regular form. To be able to progress with ICT as a teaching tool, the concept of "remote teaching" was established to circumvent the Swedish Education Act, as distance learning is not allowed under the current laws regulating primary education (Marklund & Westerlund, 2009; Statens Offentliga Utredningar, 2012). Remote teaching is defined as a teacher communicating with pupils and their teaching assistant in real time (often through video conferencing), separated in space but not in time, while distance learning is typically one way communication (e-mail, online courses, etc.), and the pupils mostly study on their own, separated by both time and space.

The project manager shared this reflection on the program: "The pupils thought it was interesting and a clever and fun way. Though it is a pedagogical challenge for the teachers to teach at a distance, but they were positive towards it." The main problems occurred in the startup phase with, for instance, technological issues that have been solved over time, and economic aspects, with large costs at the start of the project for all necessary infrastructure investments. The issue of what ages and subjects were considered appropriate was not seen as a problem: "It works with most subjects with the exception of the most practical.... Even smaller children are good at this." The project manager notes that teachers who work with younger pupils tend to think that the children are capable of working with ICT, while those who work with older pupils tend to think there should be a higher age limit.

As mentioned earlier, some subjects in particular, such as languages, are the most difficult to staff in small schools in rural areas. A school manager in the Swedish case notes,

> Language works well at a distance, and we have a good infrastructure with broadband in the entire municipality, which is a necessity. The technology has not existed before, but now they have it....

However, it is still costly. You need an adult on the other side, anyway, so you don't save that much. There should be a national initiative from the state [in ICT].

Today, pupils have the right to study guidance in their native language. In Dorotea in Sweden, they are trying to provide this via remote teaching from Lycksele (a larger municipal center, 140 kilometers away), as they have no other way of gaining access to a qualified teacher. A number of the village schools in the Swedish cases have used this method, and in one of them half the Spanish classes are taught through remote teaching. In Finland and Norway, there is interest in using ICT in the future, and they have investigated the possibilities, but they will not invest in the necessary infrastructure as long as they have qualified staff in their own schools.

Discussion

The spatial structure of the school organizations in the municipalities under study has undergone substantial changes in recent years with closures and mergers. According to representatives from all the municipalities, the goal for the future spatial structure is well-equipped and well-staffed schools in the municipal centers and as few small village schools as possible, taking into consideration costs, distances, and how scattered the pupils are within the regions. They are very interested in expanding and introducing ICT into the current framework, but only the Swedish municipalities use it currently.

There are constraints on three different spatial levels to applying new strategies, however. The state places constraints as to what municipalities and schools can and cannot do with regard to distance education and the requirement to have skilled teachers. Such policies could exist because the issue is relatively small on the national level, but also because it is desirable to have similar levels of quality throughout the country. At the municipal level, there is a political dimension: Local politicians do not want to close schools or propose radical changes for fear of losing the next election. At the community level, the constraints mainly lie with resistance from and strong social capital of the inhabitants who want to keep their own school irrespective of per capita costs. The need to test new ways of handling these difficulties is obvious, but there is often a lack of time and money for investments in new ideas.

Faced with shrinking numbers of young people, the future for rural areas in Sweden, Finland, and Norway looks challenging. This situation becomes even more worrisome when we look at the primary school sector. Most municipalities can maintain an upper school, but they might soon only have a middle school, as in Kaskö in Finland. At

a certain cost threshold, the price of running a good upper school may become too high. Until 1991, the state was responsible for primary schools in Sweden, and a return to a state-financed system could possibly maintain quality in the future. An easier proposition to carry out would be to give grants to schools in municipalities such as those within the areas studied. This approach might contribute to higher quality, at least in the short term.

Another important issue is the need to collaborate more across municipal borders. Today, municipalities might share a teacher or send pupils over borders, but apart from those activities, there is no cooperation. This situation is in line with studies that have found that collaboration is seen as a last-ditch effort (Beem, 2006). Nevertheless, by looking at distances rather than administrative borders, additional cooperation might be viable, and mutual problems might serve as a basis for increased cooperation.

Although there is no research showing that small schools perform worse than larger schools, the exceptionally small schools in the areas studied are in a vulnerable pedagogical situation, not least highlighted by the responsible officials interviewed in this study. This finding is very similar to Lee and Smith's (1997) findings. Since the schools are so small (sometimes only 5 to 10 pupils), they are hard to evaluate, as it is difficult to know whether any deviations are the result of random chance or structural issues. Nonetheless, the executive managers think that the quality of these schools is inferior to that of the larger central schools. However, the officials also need to consider, for example, what effects two hours on a bus every day would have on a seven year old. Additionally, the closure of a village school might lead to migration and depopulation, which could further decrease a community's ability to provide quality education.

This study's findings have been reflected upon from a transnational comparative perspective across the chosen cases, and also with a broader international outlook. However, due to structural differences in legal frameworks, traditions in organizations, etc., it is difficult to directly transpose compelling alternatives onto other national contexts (Mariussen & Virkkala, 2013). Nevertheless, we may theorize that one way of remote teaching could be to have teachers in a regional or even national center simultaneously connected to several schools that have pedagogically trained teachers in every classroom, or for the state to create virtual expert groups similar to those mentioned in New Zealand and Newfoundland, Canada. They would be able to provide specialized teaching at a high standard at a fairly low cost. In that way, several rural municipalities across a large territory could share the same specialized teacher. Most of the material and grading could be covered online. Sharing has not been tested on a large scale in the Nordic countries, but in limited tests, there have been some very interesting and promising results (Häll,

Hällgren, & Söderström, 2007). It is worth noting that the necessary technical infrastructure to provide distance-bridging teaching is well developed in the Nordic countries, and there is enough capacity to provide high quality interactive lectures via the web even in sparsely populated municipalities.

From this study, a number of issues have been identified. The first of these challenges concerns the connection between the centralist system and local development. It is difficult to test new solutions and get permission for educational and economic solutions to problems faced by schools in rural areas. This situation sometimes means that municipalities are restricted in the ways in which they handle their limited resources, which might contribute to efficient solutions for providing education to the pupils within their territory.

Second, policies on the use of ICT in primary schools is an important issue. Interest is increasing, and ICT has been tried and found successful, but regulations need to be reviewed and adapted to local conditions. What could support the use of ICT in Sweden, Norway, and Finland is that the necessary infrastructure is already there.

Third, attracting and keeping competent teachers in rural schools is a problem. There is a general lack of teacher competence in all three countries, but the problem is accentuated in rural areas. The solutions found here are for teachers to travel to the students, students to commute to school, or a combination of the two.

An internal urbanization has been ongoing for several decades within the municipalities, and it would seem that this process will continue for years ahead. However, what happens in the next step when the schools in the municipal centers become too small? Will this put further pressure on the already negative population development in the studied areas? The future organizational challenges for remote areas will continue to be in focus in social science. Primary schools in remote areas need to find other possible spatial arrangements. An area for further research and study by rural scholars is the ICT suggestions and current policy issues regarding ICT previously mentioned.

References

Åberg-Bengtsson, L. (2009). The smaller the better? A review of research on small rural schools in Sweden, *International Journal of Educational Research*, *48*, 100-108. doi:10.1016/j.ijer.2009.02.007

Alloway, N., & Dalley-Trim, L. (2009). "High and dry" in rural Australia: Obstacles to student aspirations and expectations. *Rural Society*, *19*, 49-59. doi:10.5172/rsj.351.19.1.49

Amcoff, J. (2012). Do rural districts die when their schools close? Evidence from Sweden around 2000. *Educational Planning*, *20*(3), 47-60.

Anastasiades, P. S., & Filippousis, G. (2010). Interactive videoconferencing for collaborative learning at a distance in the school of 21st century: A case study in elementary schools in Greece. *Computers & Education*, *54*(2), 321-339. doi:10.1016/j.compedu.2009.08.016

Autti, O., & Hyry-Beihammer, E. K. (2014). School closures in rural Finnish communities. *Journal of Research in Rural Education*, *29*(1), 1-17. Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/03/29-1.pdf

Beem, K. (2006). In the name of survival: The dual superintendency. *School Administrator*, *63*(3), 18. Retrieved from http://www.aasa.org/SchoolAdministratorArticle.aspx?id=9424

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., ... Huang, B. (2004). How does distance education compare to classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research*, *74*, 379-439. doi:10.3102/00346543074003379

Dowling, J. (2009). Changes and challenges: Key issues for Scottish rural schools and communities. *International Journal of Educational Research*, *48*, 129-139. doi:10.1016/j.ijer.2009.02.005

Egelund, N., & Laustsen, H. (2006). School closure: What are the consequences for the local society? *Scandinavian Journal of Educational Research*, *50*, 429-439. doi:10.1080/00313830600823787

Fox, M. (1996). Rural school transportation as a daily constraint in students' lives. *Rural Educator*, *17*(2), 22-27.

Gløersen, E., Dubois, A., Copus, A., & Schürmann, C. (2006) *Northern peripheral, sparsely populated regions in the European Union and in Norway* (Nordregio Report 2006:2). Retrieved from Nordic Center for Spatial Development website: http://www.nordregio.se/en/Publications/Publications-2006/Northern-Peripheral-Sparsely-Populated-Regions-in-the-European-Union-and-in-Norway/

Häll, L-O., Hällgren, C., & Söderström, T. (2007). *Elev- och lärarerfarenheter av fjärrundervisningen Pajala.* [Experiences of distance education in Pajala compulsory schools]. Umeå, Sweden: Umeå universitet, Pedagogiska institutionen.

Hammer, P. C., Hughes, G., McClure, C., Reeves, C., & Salgado, D. (2005). *Rural teacher recruitment and retention practices: A review of the research literature, national survey of rural superintendents, and case studies of programs in Virginia*. Charleston, WV: Edvantia.

Hannum, W., Irvin, M. J., Banks, J. B., & Farmer, T. W. (2009). Distance education use in rural schools. *Journal of Research in Rural Education*, *24*(3). Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/24-3.pdf

Hargreaves, L. M. (2009). Respect and responsibility: Review of research on small rural schools in England. *International Journal of Educational Research*, *48*, 117-128. doi:10.1016/j.ijer.2009.02.004

Hargreaves, L., Kvalsund R., & Galton, M. (2009). Reviews of research on rural schools and their communities in British and Nordic countries: Analytical perspectives and cultural meaning. *International Journal of Educational Research*, *48*, 80-88. doi:10.1016/j.ijer.2009.02.001

Howley, C. B., Howley, A. A., & Shamblen, S. (2001). Riding the school bus: A comparison of the rural and suburban experience in five states. *Journal of Research in Rural Education*, *17*, 41-63. Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/17-1_4.pdf

Johnson, J., & Strange, M. (2007). *Why rural matters 2007: The realities of rural education growth.* Arlington, VA: Rural School and Community Trust.

Kalaoja, E., & Pietarinen, J. (2009). Small rural primary schools in Finland: A pedagogically valuable part of the school network. *International Journal of Educational Research*, *48*, 109-116. doi:10.1016/j.ijer.2009.02.003

Kilpatrick, S., Jones, S., Mulford, B., Falk, I., & Prescott, L. (2002). *More than an education: Leadership for rural school–community partnerships* (Rural Industries Research and Development Corporation Publication No. 02/055). Retrieved from National Library of Australia website: http://pandora.nla.gov.au/pan/36440/20030717-0000/www.rirdc.gov.au/reports/HCC/02-055.pdf

Kommunochlandstingsdatabasen. (2013). [Database for municipal and county council statistics in Sweden] http://www.kolada.se/

Kučerová, S., & Kučera, Z. (2012). Changes in the spatial distribution of elementary schools and their impact on rural communities in Czechia in the second half of the 20th century. *Journal of Research in Rural Education*, *27*(11), 1-17. Retrieved from http://jrre.vmhost.psu.

edu/wp-content/uploads/2014/02/27-11.pdf

Kvalsund, R. (2009). Centralized decentralization or decentralized centralization? A review of newer Norwegian research on schools and their communities, *International Journal of Educational Research*, *48*, 89-99. doi:10.1016/j.ijer.2009.02.006

Lee, V. E., Smerdon, B. A., Alfeld-Liva, C., & Brown, S. L. (2000). Inside large and small high schools: Curriculum and social relations. *Educational Evaluation and Policy Analysis*, *22*, 147-171. doi:10.3102/01623737022002147

Lee, V. E., & Smith, J. B. (1997). High school size: Which works best and for whom? *Educational Evaluation and Policy Analysis*, *19*, 205-227. doi:10.3102/01623737019003205

Lidström, A. (2003). *Kommunsystem i Europa* [Local government systems in Europe]. Malmö: Liber.

Lyson, T. A. (2002). What does a school mean to a community? Assessing the social and economic benefits of schools to rural villages in New York. *Journal of Research in Rural Education, 17*, 131-137. Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/17-3_1.pdf

Mariussen, Å., & Virkkala, S. (2013). *Learning transnational learning.* London, UK: Routledge.

Marklund, I., & Westerlund, B. (2009). *Skolan mitt i byn: Diskussionsunderlag och checklista inför eventuell nedläggning av en byskola.* Östersund: Tillväxtverket.

Nitta, K., Holley, M., & Wrobel, S. (2010). A phenomenological study of rural school consolidation. *Journal of Research in Rural Education*, *25*(2), 1-19. Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/25-2.pdf

Organisation for Economic Co-operation and Development. (2001). *The wellbeing of nations: The role of human and social capital*. Retrieved from http://www.oecd.org/site/worldforum/33703702.pdf

Post, D., & Stambach, A. (1999). District consolidation and rural school closure: E pluribus unum? *Journal of Research in Rural Education*, *15*, 106-117. Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/15-2_2.pdf

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, *6*(1), 65-78. doi:10.1353/jod.1995.0002

Reading, C. (2009). Social computing: Reducing isolation in remote Australian schools. In T. Lyons, J.-Y. Choi, & G. McPhan (Eds.), *International symposium for innovation in rural education: Improving equity in rural education symposium proceedings* (pp. 197-204). Retrieved from SiMERR National Research Center website: http://simerr.une.edu.au/ISFIRE/pages/ISFIRE_proceedings.pdf

Reeves, C. (2003). *Implementing the No Child Left Behind Act: Implications for rural schools and districts*. Naperville, IL: North Central Regional Educational Laboratory. Retrieved from http://eric.ed.gov/?id=ED475037

Rossi, T., & Sirna, K. (2008). Creating physical education in remote Australian schools: Overcoming the tyranny of distance through communities of practice. *Journal of Research in R.ural Education*, *23*(5). Retrieved from http://jrre.vmhost.psu.edu/wp-content/uploads/2014/02/23-6.pdf

Statens Offentliga Utredningar. (2012). [Swedish Government Official Reports]. *Utbildning för elever i samhällsvård och fjärr- och distansundervisning* (SOU 2012:76) [Education for pupils in social care and remote and distance education]. Retrieved from http://www.regeringen.se/content/1/c6/20/36/60/08f05c0b.pdf

Statistics Finland. (2014). Retrieved from http://www.stat.fi/

Statistics Norway. (2014). Retrieved from http://www.ssb.no/

Statistics Sweden. (2014). Retrieved from http://www.scb.se/

Stenbacka, S. 2001. *Landsbygdsboende i inflyttamas perspektiv: Intention och handling i lokalsamhället* (Geografiska regionstudier, Nr. 42). [Countryside living from an insider's view: Intention and practice in the local community (Geographic region studies, No. 42)] Uppsala: Acta Universitatis Upsaliensis.

Thelin, A. A., & Solstad, K. J. (2005). *Utbildning i glesbygd– samspel eller konflikt? En kunskapsöversikt* (Forskning i fokus, Nr. 27). [Education in sparsely populated areas–collaboration or conflict? (Research in focus, No. 27]. Retrieved from Swedish National Agency for Education website: http://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FRecord%3Fk%3D1826

Trinidad, S. (2006). Closing the digital divide: Education telecommunications systems and possibilities in Western Australia. *Australian Educational Computing*, *22*(2), 32-36. Retrieved from http://acce.edu.au/journal/22/2/closing-digital-divide-education-telecommunications-systems-and-possibilities-western-a

White, B. (2010). Using ICT to enhance curriculum opportunities for students in rural and remote schools. *Australian Educational Computing*, *25*(2), 27-30. Retrieved from http://acce.edu.au/journal/25/2/using-ict-enhance-curriculum-opportunities-students-rural-and-remote-schools

White, B., & Johnston, S. (2008). *The impact of using social*

computing tools to teach physics across two campuses. Paper presented at Australian Computers in Education Conference, Canberra. Retrieved from Australian Council for Computers in Education website: http:// acce.edu.au/conferences/2008/papers/impact-using- social-computing-tools-teach-physics-across-two- campuses

Williamson, L., Miller, G., & Stokes, D. (2009). Best practices for teaching via interactive video conferencing technology: A review of the literature. In I. Gibson et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education international conference 2009* (pp. 3028-3034). Chesapeake, VA: Association for the Advancement of Computing in Education.

Woods, M. (2006). Redefining the "rural question": The new "politics of the rural" and social policy. *Social Policy and Administration, 40,* 579-595. doi:10.1111/ j.1467-9515.2006.00521.x