



UNIVERSITY OF JYVÄSKYLÄ
FINNISH INSTITUTE FOR
EDUCATIONAL RESEARCH

Jonna Pulkkinen



Reforming policy, changing practices?

SPECIAL EDUCATION IN FINLAND
AFTER EDUCATIONAL REFORMS

Finnish Institute for Educational Research
Studies 34

Reforming policy, changing practices?

Special education in Finland after educational reforms

Jonna Pulkkinen

Esitetään Jyväskylän yliopiston kasvatustieteiden ja psykologian tiedekunnan suostumuksella julkisesti tarkastettavaksi yliopiston Agoran auditoriossa 2 toukokuun 29. päivänä 2019 kello 12.

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Abstract

The aim of the research was to examine the changes in special education practices following the funding reform in 2010 and the reform of the Basic Education Act in 2011. The research focused on studying if the practices in municipalities and schools have changed according to the aims of the reforms. In addition, the research examined variations in the practices and changes among municipalities and schools as well as the factors that explained the variations. The research was based on three kinds of data: a survey of principals ($N = 335$), interviews with high-ranking officials in the municipal education administration ($N = 7$), and the official statistics for special education in municipalities ($N = 301$) compiled by Statistics Finland. Survey and interview data were collected in the autumn of 2012, whereas the official statistics covered the years between 2008 and 2014.

Overall, the changes in special education practices seemed to align with the aims of the reforms. The results indicated that the reforms had altered the share of students receiving special education. Moreover, practices related to early support had changed, albeit not only in the positive sense. Negative changes were also discerned, such as the decrease in resources of part-time special education. The practices of special education and changes to them varied among municipalities and schools. In particular, small and large municipalities and schools differed in both special education practices and the implementation of the reforms.

The results suggest that the reforms have altered the use of special education resources and that there is a need to re-allocate the resources of special education in municipalities. The results of this research support the idea that while implementing a reform, local authorities adapt the new practices to existing structures. Accordingly, the local context and existing structures of special education play a role in how practices have changed after the reform. Consequently, resources and variation in local context and structures have to take into account when planning reforms and their implementation.

Keywords: basic education, comprehensive school, educational reform, education policy, inclusive education, policy implementation, special education

Politiikkaa uudistamassa, käytäntöjä muuttamassa? Erityisopetus Suomessa koulutusuudistusten jälkeen

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Tiivistelmä

Tutkimuksessa tarkasteltiin erityisopetuksen käytäntöjen muuttumista vuoden 2010 rahoitusjärjestelmän uudistuksen ja vuoden 2011 perusopetuslain uudistuksen jälkeen. Tutkimuksessa selvitettiin, ovatko erityisopetuksen käytännöt kunnissa ja kouluissa muuttuneet uudistusten tavoitteiden mukaisesti. Lisäksi tutkittiin, millä tavoin käytännöt ja niiden muutokset vaihtelevat kuntien ja koulujen välillä sekä millaiset tekijät selittävät tätä vaihtelua. Tutkimus perustui kolmeen eri aineistoon: rehtorikyselyyn ($N = 335$), opetustoimen johdossa työskentelevien haastatteluihin ($N = 7$) ja Tilastokeskuksen keräämiin erityisopetuksen virallisiin tilastoihin 301 kunnasta. Kysely- ja haastatteluaineisto kerättiin syksyllä 2012, kun taas viralliset tilastot olivat vuosilta 2008–2014.

Kaiken kaikkiaan muutokset erityisopetuksen käytännöissä näyttävät olevan uudistusten tavoitteiden suuntaisia. Tulokset osoittivat, että uudistukset ovat muuttaneet erityisopetusta saavien oppilaiden määrää kunnissa. Lisäksi varhaisen tuen käytännöt ovat muuttuneet, vaikkakaan eivät ainoastaan myönteisesti. Kielteisenä muutoksena havaittiin muun muassa osa-aikaisen erityisopetuksen resurssien väheneminen. Erityisesti pienet ja suuret kunnat sekä koulut erosivat toisistaan erityisopetuksen käytännöissä sekä siinä, miten ne ovat toteuttaneet uudistuksia.

Tutkimuksen tulosten perusteella näyttää siltä, että uudistukset ovat muuttaneet erityisopetusresurssien käyttöä ja että kunnissa on tarpeen kohdentaa erityisopetuksen resursseja uudelleen. Tämän tutkimuksen tulokset vahvistavat käsitystä siitä, että toteuttaessaan uudistuksia kunnissa ja kouluissa viranomaiset sopeuttavat uusia käytäntöjä vanhoihin rakenteisiin. Näin ollen resurssit, alueelliset tekijät ja rakenteet pitää ottaa huomioon laajoja kansallisia uudistuksia suunniteltaessa ja toteutettaessa.

Asiasanat: perusopetus, peruskoulu, koulutuspolitiikka, koulutusuudistus, inklusiivinen kasvatus, politiikan toimeenpano, erityisopetus

List of original publications

- 1 Pulkkinen, J., Räikkönen, E., Jahnukainen, M., & Pirttimaa, R. (2019). How do educational reforms change the share of students in special education? Trends in special education in Finland. Manuscript in revision in *European Educational Research Journal*.
- 2 Pulkkinen, J., & Jahnukainen, M. (2016). Finnish reform of the funding and provision of special education: the views of principals and municipal education administrators. *Educational Review*, 68(2), 171–188. doi: 10.1080/00131911.2015.1060586
- 3 Pulkkinen, J., Räikkönen, E., Pirttimaa, R., & Jahnukainen, M. (2019). Principals' views on changes in the provision of support for learning and schooling in Finland after educational reform. *Journal of Educational Change*, 20(1), 137–163. doi: 10.1007/s10833-018-9334-3

The author of this thesis had the main responsibility in planning the research frame, conducting the analyses, and writing all three articles. In Studies 2 and 3, the author of this thesis was also responsible for planning data collection and collecting data, with help of the third and fourth co-authors of Study 3. Otherwise, the roles of co-authors was advisory.

Author's address Jonna Pulkkinen
Finnish Institute for Educational Research
P.O. Box 35
FIN-40014 University of Jyväskylä, Finland
jonna.pulkkinen@jyu.fi

Supervisors Senior Lecturer, Docent Raija Pirrtimaa
Department of Education
University of Jyväskylä, Finland

Professor Markku Jahnukainen
Faculty of Educational Sciences
University of Helsinki, Finland

Senior Lecturer, Docent Eija Räikkönen
Faculty of Education and Psychology
University of Jyväskylä, Finland

Reviewers Professor Tiina Itkonen
California State University Channel Islands

Professor Pasi Sahlberg
Gonski Institute for Education
University of New South Wales

Opponent Professor Tiina Itkonen
California State University Channel Islands

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Jyväskylä, April 2019

Jonna Pulkkinen

1

Introduction

In recent decades, there has been a considerable increase in special education. One reason for this increase is the expansion of education which has been propelled by the increasing awareness of human rights, as well as other social and economic interests, such as the effort to raise the educational level (Tomlinson, 1982, 2012, 2015). As a result, student diversity in general education has increased and special education has been a measure to handle this diversity. Accordingly, the increase in special education and the principle of inclusive education coexist (Tomlinson, 2012). Moreover, they have been main forces behind recent reforms in special education.

The principle of inclusive education has affected education policy for decades, but its influence has been more pronounced since the 1990s, when international organizations promoted the rights of all children to education (e.g., Richardson & Powell, 2011; Vislie, 2003). Debate around inclusive education is often concentrated on the placement of students receiving special education. But it also refers to a process of enhancing the participation of all students and removing barriers to participation and learning (Ferguson, 2008; Göransson & Nilholm, 2014; Haug, 2017; Nilholm & Göransson, 2017; Thomas, 2013; Vislie, 2003). Recently, some researchers (e.g., Haug, 2017; Kauffman, Anastasiou, & Maag, 2017) highlighted that, instead of the place of education, the debates around special education and inclusive education should focus more on pedagogical practices and their quality.

In addition to the principle of inclusive education, the increase in special education is related to economic conditions and resources, for prosperous welfare countries can afford

to invest more in education and special education (Richardson & Powell, 2011). However, at the time of straitened public economy, there is a need to stop the rising cost of special education. Hence, recent reforms in special education have been motivated by both pedagogical and financial reasons. Consequently, the funding system for special education has been a part of these reforms. By changing the funding system, the provision of special education can also be altered. Every funding system has some fiscal incentives, which can be related, for example, to the identification rates of students in special education or the placement and support arrangements of those students (Mahitivanichcha & Parrish, 2005a, 2005b).

Finland is an example of a country where the education system and its reforms are based on egalitarianism, trust in the schools' professionals, collaboration, and capacity building (e.g., Hargreaves & Shirley, 2009; Sahlberg, 2010a, 2010b; Simola, Kauko, Varjo, Kalalahti, & Sahlström, 2017). These principles were also visible in the recent Finnish reform of special education, concerning basic education (Grades 1–9). Then, at the beginning of 2010s, both the funding system (Law 1704/2009) and the Basic Education Act (Law 642/2010) were reformed in order to stop the increase in special education and to guarantee students' right to early support. The principle of early support, which is also related to the principle of inclusive education, characterized the Finnish special education system even before the latest reform (e.g., Itkonen & Jahnukainen, 2010; Sahlberg, 2010a). A form of this early support is part-time special education, which has had an essential role in the Finnish education system since the 1960s (Graham & Jahnukainen, 2011; Kivirauha & Ruoho, 2007) and which also has a significant role in the reformed support system.

Nevertheless, all levels of the education system are not necessarily consistent in respect to national education policy. In nations with a decentralized education system, such as Finland, there is usually more regional variation in practices (Richardson & Powell, 2011). Moreover, policy implementation varies depending on the policy, people, and places (Honig, 2006b). As Honig (2006b, p. 2) wrote, "no one policy gets implemented or is successful everywhere all the time." In general, educational reforms mutate during implementation (Anderson, 2010; Berman & McLaughlin, 1976), and the local context affects the implementation of the reform (Anderson, 2010; Fullan, 2016). In addition, street-level workers, who have a great discretionary power in their work and have to balance laws, rules, and procedures against the circumstances of cases, influence implementation (Honig, 2006c; Maynard-Moody & Musheno, 2003; Weatherley & Lipsky, 1977). Thus, the present study concentrates on examining whether the practices of special education in municipalities and schools have changed according to the aims of national education policy reforms in Finland and how the municipal education authorities (i.e., street-level workers) view the reforms.

1.1 Special education and inclusive education

Special education is a result of the expansion of education. On the one hand, the expansion of education has been based on the principles of human rights in education and of ensuring everyone's right to education (Richardson & Powell, 2011; Tomlinson, 1982). On the other hand, it has also been affected by wider social and economic interests, such as the effort to raise educational and skill levels for all and to make as many people as possible productive (Tomlinson, 1982, 2012, 2015).

Simultaneously, the provision of special education has increased considerably. This increase is a global phenomenon, although the share of students in special education varies internationally (Richardson & Powell, 2011). Sociologists have explained the expansion of special education as due to the challenges faced by general education. With more children were participating in the general education system, student diversity increased. Special education was a response to the challenges caused by the increasing diversity of students (Richardson & Powell, 2011; Tomlinson, 1982, 2012). Tomlinson (1982, 2012) also claimed that the expansion of special education is the result of political and professional interests attempting to control, identify, assess and treat troublesome students via special education.

Identifying, classifying and categorizing students has always been a part of the special education system. The identification of students is related to dilemmas of difference that, according to Norwich (2002, p. 496), "are especially relevant to understanding the field of special education." The dilemma is that the identification of students has both positive and negative consequences: identification ensures additional educational resources and rights, but it also stigmatizes (e.g., Norwich, 2002, 2009; Richardson & Powell, 2011).

Definitions of students receiving special education have varied at different historical times and in different countries (Powell, 2006; Richardson & Powell, 2011; Tomlinson, 2012), which partly explains the temporal and regional variation in identification rates. At first, students receiving special education were those in normative and low-incidence categories – that is, students with clear disabilities, such as sensory disabilities (Richardson & Powell, 2011; Tomlinson, 1982, 2012). With the expansion of education, special education extended to students with more minor difficulties. These non-normative and high-incidence categories are categories which depend more on the educational context, leading to greater variation in these categories. In the non-normative categories, for example, students of low socioeconomic status or from racial or ethnic minority groups are often over-presented (e.g., Anderson, Howland, & McCoach, 2015; Kvande, Belsky, & Wichstrøm, 2018; Powell, 2006; Skiba et al., 2008; Sullivan & Bal, 2013).

In addition to identification, the place, or setting, in which special education takes place is related to the dilemmas of difference (Norwich, 2002, 2008). On the one hand, mainstream settings can result in reduced specialist provision. On the other hand, special

schools and classes exclude students. Like identification rates for students in special education, the share of students with special educational needs (SEN) in mainstream settings also varies between nations (Richardson & Powell, 2011). According to Richardson and Powell (2011), segregated placements are more common in nations with decentralized education systems, such as the Finnish education system, than in nations with centralized education systems. Although segregated settings were at one time more common, the more recent international trend has been to educate more students with SEN in mainstream settings. However, this has not necessarily meant that segregated placements have decreased. Instead, it seems that the increase of students with SEN in general education groups has resulted from the overall growth in the identification of students with SEN (e.g., Graham & Sweller, 2011; Kirjavainen, Pulkkinen, & Jahnukainen, 2014c).

The trend of educating all students in mainstream settings is a part of the principles of human rights in education and advocacy of education for all. Before the 1990s, the term “integration” was mainly used when referring to the rights of all children, including students with disabilities, to education (Vislie, 2003). Since the 1990s, especially, movements of international organizations, such as the Salamanca Statement (UNESCO, 1994) and the United Nations’ (2006) Convention on the Rights of Persons with Disabilities, have promoted the rights of all children to education and the terms “inclusion” and “inclusive education” have become more common (e.g., Armstrong, Armstrong, & Spandagou, 2011; Richardson & Powell, 2011; Vislie, 2003). Hence, as Haug (2017) noted, inclusive education is a strongly value- and ideology-driven concept.

However, the definitions of inclusive education and inclusion seem to vary in the literature. In a broad perspective, inclusive education refers to a process of enhancing the community and the participation of all students, removing barriers to participation in schools and in society, and lowering barriers to learning (Ferguson, 2008; Göransson & Nilholm, 2014; Haug, 2017; Nilholm & Göransson, 2017; Thomas, 2013; Vislie, 2003). In a narrow perspective, it concerns only students with SEN and the place of special education provisions, meaning that every student gets the support he or she needs in mainstream settings (Göransson & Nilholm, 2014; Haug, 2017; Nilholm & Göransson, 2017). In the literature, a narrow definition is commonly used, and inclusive education is understood as a placement (Nilholm & Göransson, 2017).

Both perspectives on inclusive education, however, have their limitations and both have been criticized. When inclusive education is defined from the broad perspective, there is a risk that the interests of students with SEN are overlooked and that the additional needs of some groups of students are neglected (Haug, 2017; Norwich, 2002). The problem with the narrow definition is that the debate concentrates only on the place of education and not at all on the pedagogical practices and their quality (Haug, 2017). This same concern is related to the concept of special education. Kauffman et al. (2017) claimed that special

education is losing its identity and that there is a need to reconstruct special education and to clarify its purposes. According to them, instead of place of instruction, the field of special education should concentrate more on the practice of instruction.

In the present study, identification rates of students receiving special education, the place of instruction, and support arrangements and practices are examined. Hence, in the present study, special education refers not only the placement of students identified as receiving special education but also to the arrangements and practices by which the learning and participation of all students can be supported.

1.2 Funding of special education

The funding system for special education and its provision are related. For example, the funding system can affect the identification of students with SEN or the placement of these students. Funding systems include different parameters (e.g., the means, the destination for funds, and conditions for funding) by which systems are categorized (Fletcher-Campbell, Pijl, Meijer, Dyson, & Parrish, 2003). Two broad categories are used: census-based systems and weighted (i.e., non-census) systems. In the former system, special education funds are distributed by the total enrolment or total school-aged population, whereas in the latter system, varying funding amounts per student are provided (e.g., based on the overall number of students with SEN, the types of services received, or the primary placement; Harr, Parrish, & Chambers, 2012).

On occasion, the increase in the identification of students with SEN has been explained by the introduction of financial incentives in the form of weighted funding systems (e.g., Cullen, 2003; Greene, 2007; Greene & Forster, 2002; Kwak, 2010). This is related to the above-mentioned dilemma of identification, because identification is needed to get resources in the weighted funding system. In contrast, adopting a census-based system has been shown to decrease identification rates, especially in high-incidence categories (e.g., Dhuey & Lipscomb, 2011; Kwak, 2010), as the number of students with SEN has no effect on funding in this model. A census-based system is sometimes considered free of any fiscal incentives to identify students with SEN (Harr et al., 2012). Thus, it has been used to slow the cost growth in providing special education (Dhuey & Lipscomb, 2013).

However, as Mahitivanichcha and Parrish (2005a, 2005b) stated, every special education funding system contains some fiscal incentives which, in turn, affect special education practices. For example, a census-based system might incentivize service reductions, lower identification rates, less costly placements, and the more effective use of funds (Dhuey & Lipscomb, 2013; Mahitivanichcha & Parrish, 2005a, 2005b). Hence, it is not completely free of fiscal incentives and also has some disadvantages. Baker and Ramsey (2010), for in-

stance, criticized census-based systems for assuming that the number of students with SEN and, hence, the need for special education, are the same regardless of locality. According to them, student disability rates can vary and are not distributed evenly across regions. If funding is census-based and regional variations in needs are not considered, this may lead to inequity in the quality of special education services.

The relationship between fiscal incentives and special education practices is complex and is likely to be influenced by other contextual and political factors, such as the region's social, economic, and political conditions, as well as the historical traditions of special education provision (Mahitivanichcha & Parrish, 2005a, 2005b). In addition, these factors can cause regional inequities in special education funding and costs (Fletcher-Campbell et al., 2003; Parrish & Harr-Robins, 2011). For example, municipal differences in the provision of special education can be caused, in part, by the municipalities' differing financial situations (e.g., Kirjavainen, Pulkkinen, & Jahnukainen, 2014b). Moreover, funding formulas operate not only at the state level but also at the municipal and school levels (Fletcher-Campbell et al., 2003). Consequently, the resources and funding system of municipalities and schools should also be taken into consideration when studying the relationship between funding and the provision of special education.

1.3 Special education reforms

Educational reforms, including reforms of special education, have been affected by both ideological and economic factors. The above-mentioned principles of human rights in education and advocacy of education for all have also shown in the reforms of special education. However, special education is not a distinct system but a part of the general education system and state welfare system. Thus, as Thomas and Loxley (2007) pointed out, changes in the wider welfare system affect special education. Similarly, changes in the general education system affect special education.

According to Sahlberg (2011), the global educational reforms of recent decades have been influenced by the new paradigm of learning (i.e., cognitive and constructive approaches), by the aim to guarantee effective learning for all pupils, and by the global wave of decentralization of public services. Markets, standardization, competition, and accountability have been the main driving forces of educational reforms (e.g., Hargreaves & Shirley, 2009; Levin & Fullan, 2008; Sahlberg, 2010b). Although the reforms have been based on the idea of education for all (Sahlberg, 2011), some of the above-mentioned principles could be harmful for students with SEN and even obstructive to reforms based on the principles of inclusive education (Hargreaves, 2002; Haug, 2017; Thomas & Loxley, 2007).

In the 1990s, Dorn, Fuchs, and Fuchs (1996) described how the placement of students receiving special education had been a focus for special education reforms for decades. Since the 1990s, promoting inclusive education has been one of the primary goals of special educational reforms (Richardson & Powell, 2011) and the question of the best place for students receiving special education remained at the center in the reforms (Haug, 2017; Kauffman et al., 2017). However, the recent reforms of special education have been driven by not only general ideological and pedagogical reasons, such as promoting inclusive education and securing support for every student, but also by financial considerations (e.g., Jahnukainen & Itkonen, 2016). As the number of students receiving special education has increased and the per-student cost of special education grown (Duncombe & Yinger, 2005; Harr et al., 2012; Parrish & Harr-Robins, 2011; Richardson & Powell, 2011), due to the straitened public economy, reforms have aimed to decrease the number of students receiving special education (Jahnukainen & Itkonen, 2016).

Consequently, the funding system is an essential part of the reforms of the special education system. On the one hand, reforming special education funding systems always causes some changes in the provision of special education. On the other hand, the reform of the special education provision is difficult if the funding system does not support this reform. For instance, inclusive education can be supported by a weighted funding system if the funding is based on the number of students with SEN in general education classrooms (Fletcher-Campbell et al., 2003). In contrast, a census-based funding system does not necessarily promote inclusive education, although it could incentivize the decrease of disability rates (see Dhuey & Lipscomb, 2011). Thus, other policy goals can be supported by fiscal policy (Fletcher-Campbell et al., 2003; Parrish, 2000). When reforming special education, funding should be consistent with planned programme goals and objectives, no matter which funding formula is used (Parrish & Harr-Robins, 2011). In addition, effective educational changes demand the effective use of resources (Levin & Fullan, 2008), and the implementation of the reforms can be supported or alternatively hindered by resource allocation or re-allocation (O'Connor & Freeman, 2012).

1.4 Education policy implementation

Educational change can be seen as a process that takes time and includes divergent phases (Ahtiainen, 2017; Anderson, 2010; Berman & McLaughlin, 1976; Fullan, 2016). As Levin and Fullan (2008) noted, change in education is easy to create, but changes do not necessarily mean that sustainable improvements have been created. The implementation of policy reforms varies due to variation in policies, people, and places and their interaction in the implementation process (Honig, 2006b).

From the 1960s to the 2000s, the focus of education policy implementation research shifted from individual implementers' interests into interaction among policy, people, and places (Honig, 2006b). In the 1960s, educational reforms were mainly large-scale curriculum reforms and focused on disadvantaged group of students (e.g., Fullan, 2016; Honig, 2006b). As Honig (2006b) described, policy designs were regulatory, and researchers concentrated on analysing individual implementers and how well they carried out these top-down-driven policies.

In the 1970s, policy design continued to be top-down-driven and included more specific regulations, but the researchers came to pay attention to the variation in implementation (Honig, 2006b). For example, Berman and McLaughlin (1976) highlighted that educational reform has rarely been implemented according to its initial aims but it mutates during implementation. They argued that a successful implementation can be characterized as a mutual adaptation, meaning that both the reform and the institutional settings adapt. Moreover, they noted that this kind of adaptation likely results in changes in teacher or organizational practices, even though the aims of the reforms are not fully achieved.

Since the 1980s, the variation in policy, people, and places that matter to implementation has been the focus of education policy implementation research (Honig, 2006b). Nevertheless, it was not until the 1990s that education policy implementation research was interested in the interaction among these three dimensions and how and why this interaction shapes implementation (Honig, 2006b). Thus, as Honig (2006b) wrote, contemporary education policy implementation research acknowledges that the variation is an essential part of the implementation, and that implementation is a contingent and situated process in which policy, people, and places interact.

Since the 1990s, *policy* designs, including their goals, target, and tools, have also changed. Their goals altered to ensure high achievement for all students, and they targeted not only school staff but also other actors that matter to students' learning. In addition, the selection of tools, by which system change is promoted, was extended. One of these new tools was capacity building. For example, Levin and Fullan (2008) stated that sustainable change requires an emphasis on capacity building, which means that both individual and collective knowledge, competencies, resources, and motivation are increased.

Policy goals, too, are important in the implementation that is influenced by implementers' views on the need for change and the clarity, complexity, and quality of the policy initiative (Fullan, 2016). Levin and Fullan (2008) presented that a premise of sustainable change is that only a small number of key achievable and publicly-stated goals should be set. Moreover, Pijl and Frissen (2009) argued that political decision-makers can promote educational change by publishing clear goals and supporting reform activities while allowing schools to decide how to implement that change. The degree of adaptation to the re-

form is likely greater if the aims of the reform are unclear or the implementations are not well-supported (Anderson, 2010). For example, Weatherley and Lipsky (1977) found that uncertainty about the requirements and schedules of a policy program contributed to difficulties in the implementation of reform at the local level.

People, including formal target groups of policy design and other individuals and groups who are involved in the implementation process, affect policy implementation in different ways (Honig, 2006b). Levin and Fullan (2008) described that a sustainable change requires that the people implementing the change are motivated. They also emphasized the significance of strong leadership and multi-level engagement.

Moreover, one factor that affects implementation is how implementers understand and interpret policies. Spillane, Reiser, and Gomez (2006) explained the role of cognition in policy implementation. According to them, implementers construct different understandings of policies due to their different prior knowledge and experiences. People may, for example, misunderstand new ideas as familiar or see only superficial features but not the deeper meanings of the reform (Spillane et al., 2006). For instance, the various prior experiences of school personnel can transfer to later reforms and partly explain differences in the implementation of the reform among schools (Fullan, 2016; Pesonen et al., 2015).

Furthermore, reforms and changes in education are influenced by different interest groups, such as policymakers, parents, and professionals (Richardson & Powell, 2011; Tomlinson, 1982) and their various goals and preferences (Loeb & McEwan, 2006). The capacity and will of local-level actors also affect implementation (e.g., McLaughlin, 1987). Malen (2006) stated that actors who are involved in policy implementation promote and protect their own interests and secure benefits. According to her, actors may, for example, dilute and neglect policy initiatives that are not compatible with their interests or appropriate those that advance their interests. However, actors' power to influence policy implementation varies depending on their resources and position in the organizational context (Malen, 2006). Those who have the most power over the implementation process based on their organizational, political, or social position usually have the strongest influence on the process (Anderson, 2010).

For example, public employees, who interact with the citizens and have a great discretionary power in their work, have a key role in policy implementation (Honig, 2006c; Maynard-Moody & Musheno, 2003; Weatherley & Lipsky, 1977). Maynard-Moody and Musheno (2003) characterized the work and decision-making of these street-level government workers as balancing law, rules, and administrative procedures (law abidance) against "who people are" and their own beliefs and values (cultural abidance). According to them, the street-level work is not only abiding by laws, rules, and procedures but also adapting them to the circumstances of cases – that is, discretion. Thus, while carrying out policies

and laws and using their discretion, street-level workers can also be seen as policymakers (Maynard-Moody & Musheno, 2003).

An early example of research into policy implementation from the public employees' perspective includes the study of Weatherley and Lipsky (1977). They examined street-level bureaucrats' (i.e., school personnel and other key officials) views on special education reform implementation. In addition, Honig (2006a, 2006c), for instance, studied the role of central office administrators, which she also called "boundary spanners," in policy implementation. These central office administrators worked on the frontline between the central office and school community, and they had an essential role in the implementation process, for they had knowledge about sites and policy systems as well as ties with sites and within policy systems (Honig, 2006a, 2006c). However, over time their professional models turned from non-traditional to traditional, which was due to increased responsibilities, limited institutional support, and scarce resources (Honig, 2006a, 2006c). Similarly, Weatherley and Lipsky (1977) concluded that street-level bureaucrats had to routinize their practices and ration services due to increased demand and limited resources, which affected the implementation of the reform.

Hence, education policy implementation is also affected by organizational factors, historical and institutional contexts, and cross-system interdependencies – that is, *places* (Honig, 2006b). The adaptation of new reformed practices taking the local context into account is a part of the normal process of change (Anderson, 2010). As Hargreaves and Goodson (2006) stated, historical and political factors that affect change should be taken into consideration in order to achieve sustainable educational changes. Moreover, Anderson (2010) wrote that educational changes are sometimes implemented in unpredictable ways due to unique histories, socio-cultural characteristics, relationships, and conditions. Consequently, the existing structures and practices as well as the available resources and services influence the implementation (Fullan, 2016; McLaughlin, 1987; Weatherley & Lipsky, 1977).

In addition to structures and practices, there are also other contextual factors that can be related to policy implementation. For example, social capital – that is, social trust, channels of communication, norms, expectations, and sanctions – can influence implementation both positively and negatively in organizations (Smylie & Evans, 2006). Moreover, organizational factors and the interaction among different actors affect the sense-making of reform (Spillane et al., 2006). However, different contextual levels, such as schools and districts, are not just the background of the policy implementation, but there are interconnections among these contexts, which should also be taken into account in order to understand mutual adaptation in the implementation of educational change (Anderson, 2010; Datnow, 2006).

As mentioned above, scarce resources and inadequate funding of the reform can result in unintended ways to the implementation of reform (Honig, 2006a, 2006c; Weatherley

& Lipsky, 1977). If local needs and resource conditions are not compatible with the reform, the adaptation of reform is usually greater (Anderson, 2010). Thus, sustainable educational change requires that the use of existing resources is effective and new resources are available (Levin & Fullan, 2008). Nonetheless, variation and problems in policy implementation are not merely a matter of resources, but they can result, for example, from knowledge constraints (Loeb & McEwan, 2006). As Honig (2006b) noted, the significance of financial resources differs and is subject to other dimensions of policy implementation. School and local-level leaders have a key role in affecting those contextual factors, such as resources or social capital, which are related to policy implementation (Fullan, 2016; Smylie & Evans, 2006).

The present study examines educational changes at the municipal and school levels. The focus of the study is how special education reforms have been implemented in these contexts and how some contextual factors influence the implementation of the reforms. The present study researches municipal education authorities' views on the changes in special education. The municipal education authorities (i.e., the heads of the local education department and principals) lead changes from the middle and are responsible for resources in their organizations (Fullan, 2016). In addition, one or the other of them usually makes the official decision on special support in a municipality. Thus, as they are important decision-makers and have discretionary power when carrying out laws, they can also be seen as essential actors in policy implementation in schools and municipalities (Maynard-Moody & Musheno, 2003).

1.5 The Finnish context of special education reforms

In Finland, the nature of educational change can be characterized as evolutionary rather than revolutionary (Sahlberg, 2010a). Sahlberg (2010a) presented that Finnish educational change includes two different periods. According to him, during the 1970s and 1980s, educational changes focused on the creation of institutions and framework for a welfare-based education system. In the course of those decades, the Finnish education system was centralized, strongly norm-driven, and governed from the top down, characteristics which were also noticeable in educational reforms (Simola et al., 2017).

In the late 1980s, the principles of the Finnish education policy as well as the nature of educational change altered. Since then, educational changes have focused mainly on interest, ideas, and innovations (Sahlberg, 2010a). The above-mentioned global principles of educational reforms (e.g., markets and accountability) have affected Finnish education policy less than in many other countries (Rinne, Kivirauma, & Simola, 2002; Sahlberg, 2010a). In contrast, the principles of the Finnish educational reforms have been based on

equal opportunities for all, equitable resource allocation, early intervention, trust in the schools' professionals, and capacity-building (Sahlberg, 2010a, 2010b, 2011). Simola et al. (2017) argued that the embedded egalitarianism and strong belief in schooling have acted as a buffer against market-liberalism in Finnish education policy.

However, the economic recession and increasing international influences altered the Finnish education policy in the 1990s (Rinne et al., 2002; Simola et al., 2017). The education system changed from the centralized and norm-driven system to a decentralized one. In addition to decentralization, the shift in education policy meant that the emphasis on the value of individual and free choice, evaluation, and cuts increased (Rinne et al., 2002). As a result of decentralization, the autonomy of local authorities increased. As Rinne et al. (2002) claimed, decentralization contributed to the transfer of responsibility for budget cuts and savings from the central administration to the municipalities by discontinuing earmarked funding and giving municipalities more freedom to allocate funds as they saw fit.

Thus, at present, local authorities in municipalities and schools have a strong autonomy in education. In addition, teachers and schools have a large amount of authority in the Finnish education system, as Itkonen and Jahnukainen (2010) described. Although basic education is publicly funded, local authorities in the municipalities can decide independently how they use the funding allocated by the state for basic education, with the exception of the government's targeted grants which must be used for specified purposes. The primary role of national government is to guide the provision of education through legislation and national core curricula (Halinen & Järvinen, 2008).

In Finland, as elsewhere, the expansion of education has generated an increase in special education (e.g., Jauhiainen & Kivirauma, 1997; Kivirauma & Kivinen, 1988). According to Jauhiainen and Kivirauma (1997), the establishment of a comprehensive school system (Grades 1–9) in the late 1960s was followed by a robust increase in special education. Particularly, there was an increase in part-time special education, although classroom-based special education also grew slightly during the 1970s and 1980s (Jauhiainen & Kivirauma, 1997; Kivirauma & Kivinen, 1988). Part-time special education has an essential role in the comprehensive school system as a form of early support (Kivirauma & Ruoho, 2007). Kivirauma and Ruoho (2007) stated that part-time special education is a unique system and is one reason for the success of Finnish students in the Programme for International Student Assessment (PISA) study. Part-time special education is aimed at students with mild learning difficulties and can be provided temporarily and flexibly, alongside other teaching in general education settings, without any official decision (Finnish National Board of Education, 2010). Thus, part-time special education was regarded as a good method to ensure that the whole age group could be educated in the same education system and, at the same time, schools and classrooms could function smoothly (Jauhiainen & Kivirauma, 1997; Kivirauma & Kivinen, 1988; Kivirauma & Ruoho, 2007).

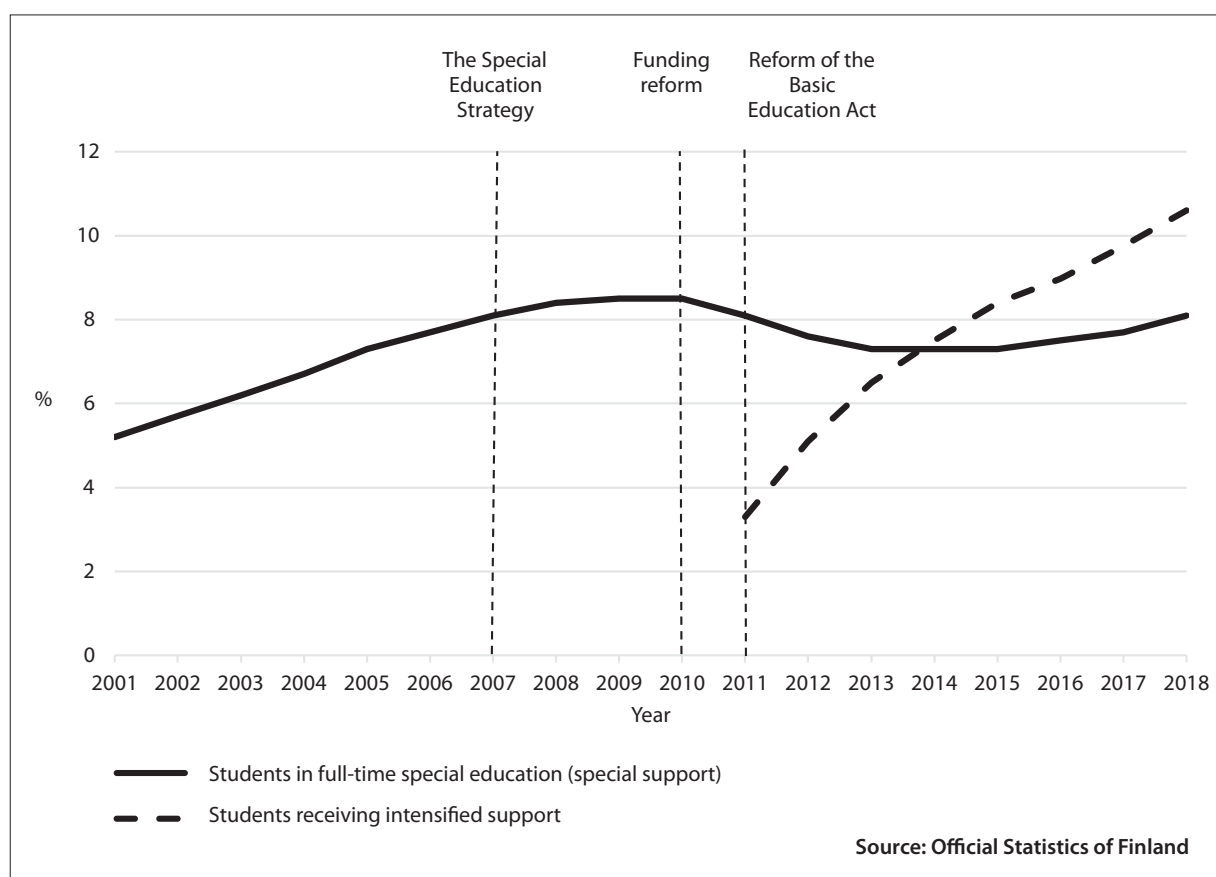


FIGURE 1 The share of students in full-time special education in 2001–2018 and students receiving intensified support in 2011–2018

The increase in special education continued into the first decade of the 2000s. For example, the share of students in full-time special education (i.e., students who have an official decision for special support) increased steadily and was at 8.5% in 2009 (see Figure 1). The increase reflects the growth of high-incidence disabilities, while low-incidence disabilities remained relatively constant in the period of 2001–2010 (Kirjavainen et al., 2014c). Graham and Jahnukainen (2011) explained the increase in full-time special education as being due to administrative factors, such as changes that extended special education in comprehensive schools to new groups of students. For instance, since 1999, schools have also been able to define students who have been taught in general education classes as having special educational needs. Thus, the share of students receiving full-time special education in a general education setting has increased since the late 1990s (Graham & Jahnukainen, 2011; Jahnukainen, 2011). Moreover, the study of Kirjavainen et al. (2014b) showed that the municipalities' financial situation was related to the increase in students receiving special education, and the differences among municipalities in the provision of special education became larger between 2001 and 2010.

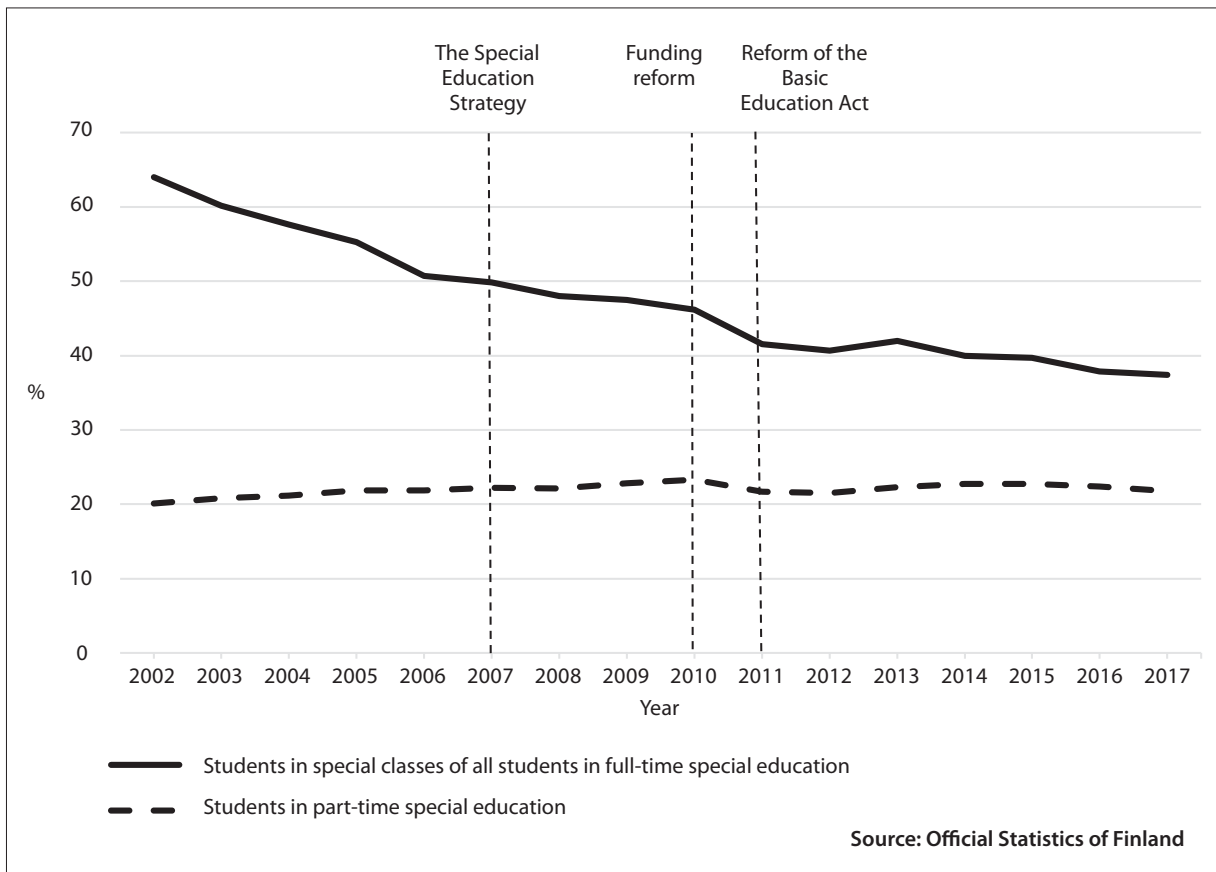


FIGURE 2 The share of students in special classes and part-time special education in 2002–2017

In addition to full-time special education, part-time special education expanded in the period of 2001–2010. The share of students receiving part-time special education increased from 20.1% to 23.3% between the school years 2001–2002 and 2009–2010 (see Figure 2). Nevertheless, of all students in full-time special education, the share of students in special classes decreased in the 2000s. For example, this share decreased from 64% to 46% between 2002 and 2010. The decrease in the share of students in special classes has continued in the 2010s (see Figure 2). In both part-time special education and special class placement, the differences between municipalities have been great, but they have not increased in the 2000s (Kirjavainen, Pulkkinen, & Jahnukainen, 2014a).

1.6 The Finnish special education reforms at the beginning of the 2010s

At the beginning of the 2010s, the comprehensive schools' special education system – that is, the funding and special educational support system – was reformed in Finland. The increase in special education (see Figure 1) was one of the main reasons for the reforms. In addition, the concern about municipal differences in special education was also expressed in the Special Education Strategy (Ministry of Education, 2007), which proposed amendments to the legislation on special education before launching the reforms.

Launched in 2010, the funding reform (Law 1704/2009) was aimed at stopping the increase in special education (Government of Finland, 2009b). Before the reform, the funding of special education was weighted – that is, municipalities received extra funding based on their enrolment of students in full-time special education (Law 635/1998; see also Graham & Jahnukainen, 2011; Jahnukainen, 2011). With the reform special education funding became census-based – that is, basic education funding is now based on the number of compulsory-school-age residents (6 to 15 years old) in municipalities (Law 1704/2009). Thus, one essential element of the funding reform was that extra funding for students in full-time special education was discontinued, with the exception that education providers continued to receive additional funding for students with severe disabilities in extended compulsory education (Law 1705/2009).

The Basic Education Act, which regulates arrangements for special educational support, was amended in 2011 (Law 642/2010). The Special Education Strategy emphasized students' right to timely support. When the amendments to the Basic Education Act were proposed, it was pointed out that one cause of the increase in special education is that existing statutes had not sufficiently guaranteed students' right to timely support (Government of Finland, 2009a). In addition, the government proposal (Government of Finland, 2009a) noted that pedagogical considerations were not given sufficient weight nor the schools' capacity to support students taken into account when assessing the need for support. Consequently, the reform of the Basic Education Act aimed to assess and arrange support more flexibly by using early forms of support, thus aiming to reduce the number of students in special education and to strengthen support arrangements in general education system (Government of Finland, 2009a; see also Ahtiainen, 2017).

Before the reform, special educational support was based on part-time special education and full-time special education. As mentioned above, part-time special education could be provided flexibly and no official decision was needed to receive it, whereas an official decision was needed for full-time special education. The reform meant the transfer to a support model comprised of three tiers (Finnish National Board of Education, 2010). In this model, the earliest form of support, general support, is aimed at all students who

occasionally need some kind of support. The second tier of the model, intensified support, targets students who need support more regularly. Compared to general support, intensified support is more systematic. The decision to provide intensified support is based on a pedagogical assessment and support is arranged according to a learning plan. As shown in Figure 1, the share of students receiving intensified support has increased steadily since the reform. In 2018, 10.6% of all students in comprehensive schools received intensified support, whereas the share of students receiving special support was 8.1%.

Special support is the most holistic and systematic form of support (Finnish National Board of Education, 2010). It is aimed at students for whom intensified support is insufficient. The decision on special support requires a pedagogical statement and is arranged according to an individual educational plan (IEP), which is drafted for the student. In the new model, special support is the equivalent to full-time special education. Part-time special education, instead, serves as a form of support for students in all three tiers. Thus, part-time special education has a significant role in the reformed support model, because it enables students to be supported by special education teachers in general education groups and can be used at all three tiers. According to the Official Statistics of Finland (2018), most (56%) of the students receiving part-time special education during the school year 2016–2017 received it as part of general support. Of students receiving intensified support in the autumn of 2017, 74% received part-time special education, whereas of students receiving special support, 40% received part-time special education (Official Statistics of Finland, 2018). In addition to part-time special education, there are also other arrangements for educational support (e.g., co-teaching, flexible grouping, and remedial teaching) mentioned in the National Core Curriculum, which can be included in all three tiers of support.

In 2008, a nationwide development project called the Kelpo initiative started. It aimed to support municipalities and schools in implementing the reform of the Basic Education Act (see Ahtiainen, 2017). The development project included some aspects of those premises that Levin and Fullan (2008) suggested to be essential for sustainable change, such as capacity building, multilevel engagement, and resources to municipalities and schools for the development of new practices. The project was funded by the state, but local authorities and schools were responsible for reforming their practices independently. Hence, in Finland, the reform of the Basic Education Act was implemented without strict restrictions and took the local context into consideration when designing support for learning and schooling (Björn, Aro, Koponen, Fuchs, & Fuchs, 2016; Jahnukainen & Itkonen, 2016). Thus, the reform was based on professional responsibility, trust in teachers, and collaboration at the school and municipal levels, by which Finnish education system and educational reforms are argued to be characterized (e.g., Hargreaves & Shirley, 2009; Sahlberg, 2010b).

However, both reforms roused concern over the effects on the availability of services and resources for special education. In a statement on the reform of the funding system,

the Education and Culture Committee of the Parliament of Finland (2009) noted that the funding reform could significantly weaken the quality of teaching for students with SEN. Moreover, in a report on the reform of the Basic Education Act (Education and Culture Committee of the Parliament of Finland, 2010), they stressed that, in addition to ensuring timely and sufficient support, it was important to consider the need for additional funding caused by the reform.

Thus far, there is hardly any research on the effects of the reforms, although a few studies concerning the reform of the Basic Education Act have been published. For example, Ahtiainen (2017) analysed the key aspects of Fullan and Hargreaves's approaches to educational change, formulated the Fullan-Hargreavesian change model, and applied this model to the Finnish special education reform. Björn et al. (2016) and Jahnukainen and Itkonen (2016), instead, compared the Finnish support model with the Response to Intervention (RTI) in the United States. Like in the United States, the tiered model was also set up after the reform in Finland. Despite similar objectives, the history and political meaning of these tiered models are different (Jahnukainen & Itkonen, 2016). In the United States, the tiered model is a framework for diagnosis and includes clear definitions for support, but in Finland, the tiered model is more of an administrative framework for structuring support (Björn et al., 2016).

Moreover, some earlier studies (e.g., Ekstam, Linnanmäki, & Aunio, 2015; Pesonen et al., 2015; Thuneberg et al., 2014) have studied the implementation of the reform in municipalities and schools. The results of the earlier studies are contradictory. On the one hand, there are signs that some form of support (e.g., the use of learning plans) have improved as a result of the reform (Pesonen et al., 2015). On the other hand, studies have also shown that the increased documentation and paperwork necessitated by the reformed support model are seen as a burdensome (Ekstam et al., 2015; Pesonen et al., 2015) and that there are but a few changes in educational practices after the reform (Ekstam et al., 2015). Moreover, although the reform was implemented nationally and the provision of support was guided by legislation and the National Core Curricula, municipalities have differed in how they have implemented the reformed support model and adopted the new concepts of this support model (Thuneberg et al., 2014).

2

Aim of the study and research questions

The present research focused on the special education reforms put into effect in 2010–2011 and the changes in the special education practices in schools and municipalities following these reforms. The main aims of the reforms were to stop the increase in the share of students receiving special education, and to strengthen early and timely support by making the use of the existing support arrangements more effective, thereby promoting inclusive education. The present research examined special education from the administrative and structural perspective. In Finland, there are very few studies in the field of special education which have focused on this perspective. The purpose of the research was twofold. First, it studied the extent to which the practices in municipalities and in schools have changed according to the aims of the reforms. Second, as the changes that the reform of the educational system will inevitably bring about are not necessarily being carried out simultaneously in different areas, the research studied the variation in practices and changes among municipalities and schools.

The research questions were:

- 1) How have the aims of the Finnish special education reforms been achieved?
- 2) How have the practices of special education changed after the reform?
- 3) How do the practices of special education vary among municipalities and schools?
- 4) Which factors do explain the variation in the practices?

These aims and research questions were explored in three original studies. *Study 1* examined changes in the share of students in special education from 2008 to 2014. The main purpose of this study was to explain consequences of the reforms in the share of students in special education as well as variation in that share and in the changes among municipalities. It also studied factors that correlated with the variation. Thus, this study concentrated on the changes at municipal level. *Study 2* concentrated on provision, availability and resourcing of special education after the reforms and on municipal education authorities' views on the impact of the reforms. The main purpose of Study 2 was to understand the different ways to organize and to resource special education after the reforms, and the meanings that municipal education authorities give to the reforms. This study focused on changes at municipal and school level. *Study 3* examined changes at school level. It focused on principals' views of the changes in support arrangements after the reform of the Basic Education Act. The main purpose of this study was to explain how principals can be grouped based on their views of the changes in support arrangements and which individual, school, and municipal level background factors differentiate these groups of principals from one another. Research questions and the focus of Studies 1–3 are presented in Table 1.

TABLE 1 Overview of the original studies: Research questions, focus of the study, data, analysis methods, and time of data collection

	Research questions	Focus of the study	Data	Analysis methods	Time of data collection
Study 1	<p>1. How did the share of students in part-time and full-time special education and in special classes change between 2008 and 2014?</p> <p>1.1 Did the share of students in special education change between 2008 and 2010 (i.e., before the reforms), and did the rate of change vary across municipalities?</p> <p>1.2 Did the share of students in special education change between 2010 and 2011 (i.e., between the funding reform and the Basic Education Act reform), and did the rate of change vary across municipalities?</p> <p>1.3 Did the share of students in special education change between 2011 and 2014 (i.e., after the Basic Education Act reform), and did the rate of change vary across municipalities?</p> <p>1.4 Was the initial level in the share of students in special education related to the rate of change in each of the three phases? Were the rates of changes related to each other?</p> <p>2. Did municipal-level background factors (i.e., size, financial situation, and socioeconomic characteristics) predict variations across municipalities in the level and rate of change in special education in each of the three phases?</p>	<p>Changes in the share of students in part-time and full-time special education, and in special classes after the funding reform and the reform of the Basic Education Act</p> <p>Municipal level</p>	<p>Official statistics for special education (301 municipalities)</p>	<p>Descriptive statistics</p> <p>Piecewise latent growth curve modelling (PLGM)</p> <p>Multivariate linear regression analysis</p>	<p>Years 2008–2014</p>
Study 2	<p>1. How has the special education been arranged and resourced since the reforms?</p> <p>2. How do municipal education authorities view the impact of the reforms?</p>	<p>Changes in the provision, availability, and resourcing of special education after the funding reform and the reform of the Basic Education Act</p> <p>Municipal and school levels</p>	<p>Survey (335 principals)</p> <p>Interviews with 7 high-ranking officials in municipal education administration</p>	<p>Descriptive statistics</p> <p>Qualitative content analysis</p>	<p>Autumn 2012</p>
Study 3	<p>1. How do principals view the changes in support arrangements?</p> <p>2. Are there subgroups of principals based on their views on changes in support arrangements?</p> <p>3. How do individual, school, and municipal level factors differentiate the subgroups from one another?</p>	<p>Changes in support arrangements after the reform of the Basic Education Act</p> <p>School level</p>	<p>Survey (315 principals)</p>	<p>Descriptive statistics</p> <p>Latent class analysis (LCA)</p> <p>Multinomial logistic regression analysis</p>	<p>Autumn 2012</p>

3

Methods

In the present research, mixed methods approach has been applied – that is, both qualitative and quantitative methods have been used. Mixed methods approach was chosen, for the purpose of the present research was related to the understanding of meanings and explanation (see Biesta, 2010). The parallel mixed design (Teddlie & Tashakkori, 2010) was employed, meaning that qualitative and quantitative strands occurred independently and simultaneously. Study 2 was based on both qualitative and quantitative data and analyses, whereas Studies 1 and 3 were based on quantitative data and analyses. Table 1 presents data and analysis methods of Studies 1–3.

3.1 Data

In the present research, changes in educational practices in municipalities and schools were analysed using three kinds of data. In Study 1, the data were based on official statistics on special education compiled by Statistics Finland. The statistics covered years between 2008 and 2014. The first year of the study period was the year following the launch of the Special Education Strategy, which framed the goals of the reforms that followed. In that same year (2008), the Kelpo initiative, which was a nationwide development project to support education providers in implementing the reform of the Basic Education Act, also commenced. The selected study period also included the reform years (i.e., funding reform in

2010 and the reform of the Basic Education Act in 2011) but not other significant reforms of basic education, such as the new National Core Curriculum which was launched in the autumn of 2014. In Studies 2 and 3, data were drawn from a survey of principals. In addition to the survey data, Study 2 utilized data gathered from interviews of high-ranking officials in municipal education administration. These data were collected in the autumn of 2012, approximately three years after the funding reform and two years after the reform of the Basic Education Act.

3.1.1 Official statistics

In Study 1, official statistics for special education organized by 301 municipalities were used. Data were the population data of Finnish municipal comprehensive schools. The statistics included information about the number of students in both part-time and full-time special education. The statistics also contained data on the place of provision of special education (Official Statistics of Finland, 2016), covering pre-primary education (6-year-olds), basic education (Grades 1–9, 7–16-year-olds), and additional basic education teaching (Grade 10, 17-year-olds).

These data are collected annually from educational institutions by means of a web-based questionnaire. Data are collected in September, and information about the number of students in full-time special education and the place of provision describes the situation at that point in time. In contrast, the data on part-time special education refer to the number of students over the last school year (e.g., part-time special education statistics for the school year 2009–2010 were collected in September 2010).

Total enrolment in municipal comprehensive schools was 537,215 students in 2008 and 517,547 students in 2014. As there was some consolidation of municipalities in Finland between 2008 and 2014, the municipal divisions for the year 2015 was used. To study the relationship between changes in special education and background variables at municipal level, the special education data were combined with other key municipal data that were freely available on the Statistics Finland's website (Official Statistics of Finland, 2017).

3.1.2 Survey

The participants of the survey consisted of principals in Finnish-speaking municipal comprehensive schools. According to Official Statistics of Finland (2012), in 2012 there were 2,349 of these schools (87% of all Finnish schools). The special education schools, Swedish-speaking and English-speaking schools, or private and state schools were not inclu-

ded in the study. The semi-structured survey was sent to 600 principals. The author of this thesis planned the sampling and conducted the data collecting.

Altogether, 348 principals answered the survey. Of these, 12 (3.4% of the available principals) answered only background questions and one principal reported as being a special school's principal, and thus they were excluded from the final sample of this study. This final sample consisted of 335 principals (response rate 56%). In Study 2, the data from all 335 principals were used. The work experience as a principal ranged from 0 to 36 years, with a mean of 11 years. 64% of the principals worked in primary school (Grades 1–6), 15% in lower secondary school (Grades 7–9) and 21% in comprehensive school (Grades 1–9). By comparing respondents' schools to statistics on all Finnish comprehensive schools, it could be found that the respondents were representative of the schools and various regions of Finland.

The survey included questions about background of the principals, schools' special education resources, and forms and arrangements of the support for students' education. In the accompanying letter, the principals were informed that register data providing information on municipal variables can be added to the dataset. The author of this thesis planned and formulated survey with help of the third and fourth co-authors of the Study 3. In Study 2, the themes concerning support resources and arrangements were reported (see Appendix 1). In Study 3, background variables and the variables concerning support arrangements were analysed (see Appendix 2). In Study 3, cases with missing values for all dependent variables ($n = 20$) were not included in the analysis. Hence, the final data used in Study 3 consisted of 315 principals (52.5% of the initial sample). Background variables of these principals are described in more detail in Study 3.

3.1.3 Interviews

Semi-structured interviews were conducted with seven high-ranking officials in municipal education administration who were purposefully selected from municipalities of different sizes in various parts of Finland. In addition, interviewees were selected from municipalities that varied in respect to the share of students in special education. The author of this thesis conducted six of the seven interviews. The co-author of the Study 2 interviewed one of the officials. Each interview lasted approximately an hour.

The interviewees' titles varied from director of education, basic education or education and culture to education and cultural planning officer. All the interviewees had worked as teachers, and six had previous experience as a principal. Three interviewees had no experience as a special education teacher, two had some experience, and two held the statutory qualification as a special education teacher.

The themes of the interviews included the practices of arranging special education, the resources for basic and special education and future challenges in basic and special education in each municipality (see Appendix 3). During the interviews, statistics on a municipality's special education were made available so that the interviewees could refer to them when describing the processes and changes in the special education provision in the municipality. In addition, the interviewees were informed of some results of the survey, which was conducted in 2010–2011 and whose participants were high-ranking officials in municipal education administration (see Pulkkinen & Jahnukainen, 2015). The interviewees were asked to reflect on their own views in relation to these results.

3.2 Variables

In the present research, special education variables described the practices of special education in municipalities and schools. Next, the variables used in the present study are described briefly. The information of variables used in Studies 1–3 is provided in more detail in the original studies.

3.2.1 Special education

In Study 1, special education was examined through the share of students receiving special education. The dependent variables of Study 1 were: (1) the percentage of all students in basic education who are receiving part-time special education, (2) the percentage of all students in basic education who are receiving full-time special education, and (3) the percentage of students in special classes compared to all students receiving full-time special education. Part-time special education refers to teaching that students with difficulties in learning or school attendance can receive in addition to other teaching, without any official decision. It can be provided within all three tiers of the Learning and Schooling Support system, including to students receiving full-time special education. Full-time special education refers to students who have an official decision about special support.

In Study 2, special education was examined using variables such as the decision-making process for three-tier support, the place of provision of special education, and the allocation and adequacy of special education resources. In Study 3, special education was studied through support arrangements by which students can be supported in all three tiers. Change variables of ten different support arrangements were used as dependent variables. These support arrangements were as follows: (1) classroom teachers or subject teachers are co-teaching together, (2) a special education teacher is co-teaching with a classroom teach-

er or a subject teacher, (3) teaching groups vary flexibly, (4) remedial teaching is arranged for students, (5) a learning plan is drafted for a student, (6) students are receiving part-time special education, (7) special needs assistants are supporting students, (8) cooperating with families in order to support students, (9) the student welfare team is seeking solutions on how to support students, and (10) teachers are differentiating their instruction.

The variables describing the principals' assessment of each above-mentioned arrangement had four categories: 1 = Poor, 2 = Average, 3 = Good, and 4 = Very good. The principals assessed how the arrangements had been before 2011 (i.e., before the reform of the Basic Education Act) and how they were at the moment (i.e., after the reform of the Basic Education Act in the autumn of 2012 when the principals responded to the questionnaire). The new variables were created of change from each of the ten rated arrangements separately by subtracting before the changes in legislation assessments from after the changes in legislation assessments. These variables were recoded into three categories: 1 = negative change, 2 = no change, and 3 = positive change.

3.2.2 Background variables

In Studies 1 and 3, the changes in special education and support arrangements were explained by some background variables. Municipal-level background variables relating to special education supply and demand were used to predict the level and rate of change in the share of students in special education in Study 1. The variable used to describe supply was the total enrolment in municipal schools, indicating the size of municipality. In addition, tax revenue per capita, which in Finland has been shown to have the strongest effect of municipal level financial factors on the share of special education students (Kirjavainen et al., 2014b) was used to describe supply. The variables associated with demand for special education described the following socioeconomic characteristics of municipalities: share of the population aged 15 and over with a tertiary level qualification; unemployment rate; and share of population speaking a foreign language.

In Study 3, individual, school, and municipal level variables were used to explain principals' assessment of the changes in support arrangements. Individual level variables were work experience as a principal, work experience in special education, and participation in training concerning support for learning and schooling. School size, grade (Grades 1–6, Grades 1–9, and Grades 7–9), participating in the initiative Action to Develop Intensified and Special Support, and the principal's assessment of the school's resources for special education were the school level variables used in Study 3. Of municipal level variables, population of the municipal and geographical regions of Finland were used.

3.3 Data analyses

In the present research, the practices of special education and changes to them were analysed by using descriptive statistics (Studies 1–3), piecewise latent growth curve modelling (Study 1), qualitative content analysis (Study 2), and latent class analysis (Study 3). Data analysis methods are described more closely in the original studies. Next, the data analyses of each study are presented briefly.

3.3.1 Study 1

In Study 1, descriptive statistics (i.e., means and standard deviations) were used to study the share of students in special education and variations in that share across municipalities before and after the reforms. To investigate the effects of the funding reform and the reform of the Basic Education Act on the share of students in special education, the effect sizes were calculated (Cohen's *d*; Cohen, 1988). In addition, the study utilized piecewise latent growth curve modelling (PLGM) to analyse the form and strength of the change in the share of students in special education, variations in these changes before and after the special education reforms across municipalities, and which municipal-level background factors predict these variations. The same model was tested separately for part-time special education, full-time special education, and special class placements.

PLGM was used instead of a polynomial growth model (e.g., quadratic) because it can capture nonlinearity of the change by dividing the study period into sub-periods and modelling change within each period with an additional linear slope factor. Therefore, PLGM is easier to interpret than polynomial models (Flora, 2008). In addition, PLGM facilitates incorporation of separate phases of the overall change process (Kohli & Haring, 2013) and analysis of differences in the relationship between slope factors and predictors (Diallo & Morin, 2015). Study period 2008–2014 was divided into three sub-periods according to pre-defined transition points according to the years of the reforms (i.e., 2010 and 2011).

Accordingly, a three-piece model (Bollen & Curran, 2006; Flora, 2008) was used with a linear slope for each phase to examine whether the share of students in special education changed before the reforms, after the funding reform (in 2010), and after the reform of the Basic Education Act (in 2011). The first piece covered the years 2008–2010 (before the reforms). The second piece covered the years 2010–2011 (after the funding reform until the reform of the Basic Education Act), and the third piece covered the years 2011–2014 (after the reform of the Basic Education Act).

The variation across municipalities in initial level and in rate of change was accounted for by fitting multivariate linear regression models. These used time-invariant covariates

to analyse how municipal-level background variables at the beginning of each phase predicted the variation in growth factors (i.e., level and rate of change) across municipalities (Curran, Obeidat, & Losardo, 2010). On that basis, the initial level (year 2008) and the first slope (2008–2010) were predicted by total enrolment for the year 2008 and other municipal factors for the year 2007. Total enrolment for the year 2010 and other municipal factors for the year 2009 were used to predict the second slope (2010–2011). The third slope (2011–2014) was predicted from total enrolment for the year 2011 and other municipal factors for the year 2010.

3.3.2 Study 2

In Study 2, the views of principals and municipal education administrators on the reforms of special education and on the changes the reform brought about in special education were investigated using descriptive methods. In the study, response distributions were examined. Responses to open-ended questions were analysed with classification and quantification. Qualitative content analysis was employed on the interview data. The analysis framework was based on the goals of the reforms and the issues which the Parliament's Education and Culture Committee expected to be monitored after the reforms. Data were categorized as relevant to the provision of special education and related decision-making or to the resources and availability of special education.

3.3.3 Study 3

The aim of Study 3 was to investigate principals' views on the changes in support arrangements and to identify the subgroups of principals based on these views after the reform of the Basic Education Act in 2012. First, principals' views on changes were examined using descriptive statistics. Second, subgroups of principals based on the similarity of their views on the changes in support arrangements were identified using latent class analysis (LCA). LCA is a statistical clustering method that enables the identification of latent subgroups among a set of categorical variables (Vermunt & Magidson, 2002). Each of the principals belonged to one of a set of K latent groups, and principals who belonged to the same group were similar with respect to their views on changes in support arrangements (see Vermunt & Magidson, 2002).

LCA models with one to seven groups were compared to find the model that best fit the data. Three different criteria were used to decide the best number of subgroups. First, the practical usefulness (i.e., the number of principals in each group) and the theoretical in-

interpretativeness of the solution were considered. Second, goodness-of-fit of the competing models with varying number of subgroups were evaluated. The third criterion for optimal number of groups was the quality of the identified grouping that can be evaluated based on entropy and average latent class posterior probabilities (AvePP). The entropy illustrates the accuracy of the overall grouping whereas AvePP evaluates how probably a principal ends up in a particular group.

After selecting the best number of groups, the relationship between group membership and individual, school, and municipal level factors was explored with multinomial logistic regression analysis using the automatic three-step method (Asparouhov & Muthén, 2014). Using this method, the most likely latent group variable obtained from the LCA is regressed on predictor variables while taking into account the measurement error related to the grouping of principals into the latent groups. The predictor variables were treated as auxiliary variables, which means that they did not affect the identification of the final LCA grouping. The multinomial logistic regression analysis was performed separately for individual, school, and municipal level factors.

4

Main results of the original studies

4.1 Study 1: How do educational reforms change the share of students in special education? Trends in special education in Finland

The aim of Study 1 was to examine changes in the share of students in special education (including part-time special education, full-time special education, and special class placements) from 2008 to 2014. The study examined how the educational reforms of 2010–2011 altered the share of students in special education. In addition, the variation in the level and rate of change in special education across municipalities and the municipal-level predictors of this variation were analysed.

For part-time special education, the results indicated that the share of students decreased after the funding reform (between 2010 and 2011) but increased after the reform of the Basic Education Act (between 2011 and 2014). Changes related to full-time special education seemed to differ from changes related to part-time special education, for the share decreased after both reforms. Of all students in full-time special education, the share of students in special classes showed an overall decline within the study period. The decrease was larger after funding reform than before the reforms or after the reform of the Basic Education Act.

Municipalities varied both in the initial level and in the rates of change. The differences in the share of students in part-time special education across municipalities increased

before the reforms and decreased after the funding reform. For full-time special education, the differences among the municipalities decreased in each of the three phases. Similarly, differences among the municipalities regarding the share of students in special classes decreased in each of the three phases.

The strongest predictor of variance in the initial level across municipalities was total enrolment. Large municipalities had a lower share of students in part-time special education. Instead, large municipalities had a higher share of students in full-time special education and special classes. A higher share of population with tertiary-level qualifications was associated with a higher share of students in part-time special education but with a lower share of students in full-time special education and special classes. Moreover, a higher share of students in part-time special education was related to higher unemployment rate. Municipalities in which a higher share of the population speaks a foreign language had a higher share of students in full-time special education.

All associations with the rate of change before the reforms and with the rate of change after the Basic Education Act reform were quite small. The rate of change after the funding reform was best predicted by total enrolment, but the direction of the relationship varied for different forms of special education. Decline in the share of students in part-time and full-time special education was slower in larger municipalities. In contrast, larger municipalities showed faster decline in the share of students in special classes.

Overall, the changes were greater after funding reform than after the reform of the Basic Education Act. However, changes differed across forms of special education provision and across municipalities. In particular, small and large municipalities differed in special education practices and implementation of reforms. The results suggest that the funding reform has incentivised municipalities to diminish special education provisions. The reform of the Basic Education Act, instead, has increased provision of early form of support (i.e., part-time special education). Thus, the changes in special education provision introduced by the reforms seem to align with the aims of the reforms.

4.2 Study 2: Finnish reform of the funding and provision of special education: the views of principals and municipal education administrators

The aim of Study 2 was to examine municipal education authorities' views on the provision, availability and resourcing of special education after the funding reform and the reform of the Basic Education Act using data from survey of principals and interviews with municipal education administrators.

According to municipal education authorities, pedagogical expertise had a very significant role in the decision-making for special education in municipalities. Local authorities seemed to pay more attention to early intervention and attempted to decrease the number of students in special education after the reforms. However, the existing structure of special education seemed to play a role in how support was arranged, and special groups continued to be a part of the reformed support system.

With respect to resources of special education, findings showed that the need primarily drove the allocation of special education resources in municipalities and schools. The local authorities, though, seemed to follow different practices in allocating resources to schools. On the one hand, some of the municipal education authorities viewed that resources of special education did not correspond to need. On the other hand, some viewed that resources as such are adequate, but resources should be re-allocated to make supply and demand meet. For example, the resources for part-time special education were, according to municipal education authorities, insufficient and some local authorities had re-allocated resources from special groups to part-time special education.

The municipal education authorities did not see any significant effects from the reforms on the provision of special education. Some of them viewed that the amended Basic Education Act had improved special education resources and their use by directing them to those who truly needed them. Some of them, instead, viewed that the provision of special education had declined in recent years, but this was due to pedagogical reasons and the increase in students' need, not due to the funding reform and the reform of the Basic Education Act. In addition, the scarcity of municipal financial resources was pointed out to be a reason for insufficient resources of special education.

The findings indicated that the municipal education authorities' views on the practices of special education in municipalities and schools and changes in them comply with the aims of the reform. The findings suggest that the reform of the Basic Education Act, in the opinion of the municipal education administrators, has influenced the provision of special education more than the funding reform. It seems that the new forms of support have been adapted to the existing structures of special education in municipalities. Nevertheless, local authorities seem to have targeted the resources of special education differently and used resources more effectively after the reforms.

4.3 Study 3: Principals' views on changes in the provision of support for learning and schooling in Finland after educational reform

The aim of Study 3 was to examine whether there are groups of principals that share similar views on the changes in support arrangements after the reform of the Basic Education Act and if some individual, school, and municipal level background factors differentiate these groups of principals from one another.

The results showed that most of the principals assessed the reform of the Basic Education Act as bringing about positive change in drafting learning plans for students and viewed that other support arrangements have not changed after the reform. Of all the support arrangements considered, part-time special education was viewed to have changed the most negatively.

Using latent class analysis, four subgroups of principals were identified based on the principals' views on changes in support arrangements. For the largest group (*Stability of support*, 54% of principals), "no change" was the most probable option for all but one of the support arrangements. The only arrangement the principals in this group assessed as being better, after the reform, was drafting a learning plan for a student. The principals of the next largest group (*Improved pedagogical support*, 19% of principals) viewed that the forms of support concerning pedagogical arrangements are better after the reform. This group preferred pedagogical aspects of the reform and viewed that the positive change has been the way to support students more flexibly and individually.

Group 3 (*Increased administrative support*, 14% of principals) viewed that the only positive change concerns the learning plan, which has been mentioned in the Basic Education Act and the National Core Curriculum after the reform. Instead, the principals in this group saw that part-time special education and cooperation with families have changed negatively. Group 4 (*Weakened support*, 13% of principals) viewed either negative changes or no changes in arrangements of support after the reform. Most negative changes, according to this group, had occurred in those arrangements that require additional resources or use of the teachers' time to cooperate instead of teaching.

The results regarding the factors differentiating these groups of principals from one another indicated that, compared to the improved pedagogical support group, the principals in the stability of support group were those who had more work experience as a principal. In addition, school size differentiated groups from each other: the stability of support group was more likely to include those principals who worked in small schools. In addition, compared to the principals in the weakened support group, the principals in the improved pedagogical support group were less likely to work in small schools and less likely to want more resources for special education. Of the municipal level factors, region was

related to group membership so that, compared to the principals in the improved pedagogical support group, the principals in the stability of support group were more likely to be from Northern Finland than from the metropolitan area.

The results suggest that the views on the support arrangements and on how they have changed after the reform can differ a lot among principals. It seems that after the reform of the Basic Education Act the changes in the support arrangements have not been, in the opinion of principals, only positive in the schools. Although the aim of the reform was to secure for all students the support they need, it seems that some arrangements, especially those calling for additional resources, have changed negatively in some schools. This suggests that schools arrange the support in their own way depending on the ability of each school.

5

Discussion

The provision for special education has increased in recent decades, which is, at least partly, due to expansion of education. For example, the principle of human rights in education and the advocacy of education for all have promoted inclusive education and increased student diversity in the general education system. Inclusive education and special education coexist, for special education has been one answer to increased diversity in education (Richardson & Powell, 2011; Tomlinson, 1982, 2012). Debate on special and inclusive education has often concentrated on the place of education (e.g., Nilholm & Göransson, 2017), although special and inclusive education are much more broader concepts and debate on them should focus also on pedagogical practices (Haug, 2017; Kauffman et al., 2017).

The funding system and provision of special education are related. Funding always has some incentives and should be consistent with the aims of special education provision, as well as considered in policy reforms (Mahitivanichcha & Parrish, 2005b; Parrish & Harr-Robins, 2011). Thus, funding is closely related to special education reforms. In recent years, special education reforms have been driven by the advocacy of inclusive education and by the increase in special education. The aims of the reforms are based not only on ideological and pedagogical views but also fiscal interests (Jahnukainen & Itkonen, 2016). In Finland, the recent special education reforms (i.e., reforms of special education funding and the Basic Education Act) went into effect in 2010–2011. The present research examined whether the practices in municipalities and schools changed according to the aims of the reforms and if there was variation in the changes and practices among municipalities and schools.

5.1 Changes in the special education practices after the reforms

The Finnish special education reforms aimed to stop the increase in the share of students receiving special education and to strengthen early support by making existing support arrangements more effective, thus also promoting inclusive education. The identification of students receiving special education and changes in identification rates were investigated in Studies 1 and 2. The results showed that the reforms of special education altered the identification practices in municipalities. By analysing official statistics (Study 1), it was apparent that both reforms altered the share of students in special education but that the changes were slightly greater after the funding reform than the reform of the Basic Education Act.

However, in the opinion of municipal education administrators (Study 2), the reform of the Basic Education Act affected the special education provision slightly more than funding reform, for it has changed practices related to early support. According to municipal education administrators, they decreased the number of students receiving special support by emphasizing early forms of the support and by allocating resources primarily to intensified support. Study 1 supported these findings, for the share of students in full-time special education decreased and the share of students in part-time special education increased after the reform of the Basic Education Act.

Study 3, though, showed that principals hold disparate views on the changes in support arrangements after the reform of the Basic Education Act. The new legislation contained a clear injunction to draft a learning plan for all students receiving intensified or special support. Most principals believed that this arrangement had improved. However, the new regulations were not as explicit in regard to other arrangements as they were for the learning plan. On the one hand, a group of principals viewed that pedagogical support arrangements had improved after the reform. On the other hand, some principals viewed that the reform resulted in either no change or negative changes in support arrangements.

These results may be partly explained by the fact that principals interpret the reform and its aims in different ways depending on, for example, their knowledge, beliefs, and earlier experiences (Spillane et al., 2006). Due to these different cognitions, some of them may view only the surface of the reform and changes, whereas others may view the changes in their school in relation to the deeper meaning of the reform. Loeb and McEwan (2006), instead, noted that people have differential preferences and goals, and some of the actors may only search for a low-cost way to show that they have altered their practices. Changing practices related to drafting a learning plan is a relatively easy way to alter practices, whereas other practices may require more fundamental changes in schools. Moreover, street-level workers also use their discretion while carrying out policies (Honig, 2006c;

Maynard-Moody & Musheno, 2003; Weatherley & Lipsky, 1977). Thus, the differences in practices may also be explained by the fact that circumstances vary among schools, and principals have adapted the reform to these circumstances (see Maynard-Moody & Mushe-
no, 2003).

Part-time special education was the support arrangement principals viewed as changing the most negatively after the reform of the Basic Education Act (Study 3). This may be due to the fact that, as previous studies (Ekstam et al., 2015; Pesonen et al., 2015) demonstrated, documentation and paperwork increased after the reform. Powell (2006, p. 580) stated that classification is "needed to justify compensatory provision of additional expenditures and specialized services." This is also true of models that are not based on diagnosis and classification but on the need of support, such as the reformed Finnish support model. Thus, the reform was followed by increased documentation, which may have decreased the time teachers have for other support arrangements and instruction. As Weatherley and Lipsky (1977) argued, school personnel have to balance demand against available resources. They concluded that, in the case of inadequate resources, personnel ration services and routinize practices, which results in unintended practices after the reform. This might also be the case in the Finnish reform and explain the principals' views on part-time special education.

All three data used in the present research (i.e., interviews, survey, and official statistics) showed that the reforms decreased the resources of part-time special education which had been an essential and unique form of early support in the Finnish comprehensive school system for decades (Graham & Jahnukainen, 2011; Jauhiainen & Kivirauma, 1997; Kivirauma & Kivinen, 1988; Kivirauma & Ruoho, 2007). Particularly, it seems that the funding reform altered the use and resources of part-time special education (Studies 1 and 2). Instead, the share of students in part-time special education increased after the reform of the Basic Education Act (Study 1).

Part-time special education has remained a central form of support in the reformed support system (Thuneberg et al., 2013). Still, it has not explicitly taken into account by either the old or the new funding system. Under the weighted funding system, funds the municipality received for a student receiving special support could have been allocated for part-time special education, especially if a student received special support on less compelling grounds and could be supported mainly by part-time special education. Hence, the old system also incentivized identifying student as receiving special support, even in situations when students had mild learning difficulties and identification was not absolutely necessary. Similarly, the move to a census-based system may have incentivized municipalities to reduce the provision of part-time special education. As Study 1 showed, the share of students receiving part-time special education decreased slightly after the funding reform.

The aim of promoting inclusive education is related to early support. Using official statistics, changes in special class placements were examined in Study 1. The results showed that special class placements had decreased even before the reforms and that this decrease continued after the reforms. Like part-time special education, special class placement was influenced by the funding reform. This reform might have incentivized municipalities to reduce special class placements, too. As the results of Study 2 showed, education administrators in municipalities perceived that there is a need to re-allocate resources of special education to general education classes and part-time special education by decreasing special class placements. Thus, the funding reform seemed to change practices not only related to identification but also to provision of support.

Nevertheless, the reform of the Basic Education Act brought about a new form of segregated placement – that is, separate groups for students receiving intensified support (Study 2). This was shown also in the study of Lintuvuori, Jahnukainen, and Hautamäki (2017). As the official statistics do not include information about the place of provision of intensified support, Study 1 did not reveal the whole picture of the changes in segregated practices. In some municipalities, the practices related to placement may have remained the same, although the official statistics indicated that special class placements decreased. Partly, this may be related to the dilemma of placement (Norwich, 2002, 2008), which was also indicated in Study 2. Namely, principals viewed special education groups as pedagogically the most effective learning environment for students with SEN, even though they believed that mainstream teaching groups were the most effective financially.

Arrangements for providing support in general education classes are possibly not yet at the same level as those for special classes and the above-mentioned resource re-allocating is needed. In addition, although part-time special education is a form of early support and can be provided in general education classes, segregated small groups are commonly used in part-time special education, as study of Takala, Pirttimaa, and Törmänen (2009) showed. If the aim of the reform is to promote inclusive education, it is important to ensure that support arrangements in schools are sufficient. Hence, as Haug (2017) and Kauffman et al. (2017) suggested, the debate on special and inclusive education should focus on pedagogical practices and their quality, not only on placement.

5.2 Variation in the practices and changes

The Special Education Strategy (Ministry of Education, 2007) expressed concern about municipal differences in special education. However, the reforms did not aim to decrease differences in provision of special education among municipalities. Conversely, it was considered as problematic that, before the reforms, pedagogical considerations were not given

sufficient weight nor schools' ability to support pupils taken into account when assessing the need for support (Government of Finland, 2009a). Study 1 showed that differences in special education provisions across municipalities decreased after the reforms. Nevertheless, the results of the present research supported the findings of previous studies (e.g., Thuneberg et al., 2014; Vainikainen, Thuneberg, Greiff, & Hautamäki, 2015) that indicated that schools and municipalities arrange special education and support in their own way, depending on their ability.

Particularly, the size of school and municipality helped to explain the variation in the provision of special education and its changes. As Study 2 showed, especially in small municipalities, the fluctuations in number of special education staff and other various incidental factors can significantly affect identification rates and provision of special education. Instead, Study 3 showed that principals in small schools viewed changes in pedagogical support more negatively. Although pedagogical arrangements are usually more flexible in small schools (Kalaoja & Pietarinen, 2009), there are more personnel in large schools, which may enable more variability in pedagogical support, thus explaining the differences in principals' views.

In addition, Study 1 indicated that there is variation in the provision of special education and in changes among municipalities. In small municipalities, it was more common to provide support in the form of part-time special education than in special classes. Since the establishment of a comprehensive school system, part-time special education has been useful in rural areas, where class-based special education may have been too expensive due to the small number of students (Jauhiainen & Kivirauma, 1997). Moreover, Study 1 showed that, in small municipalities, changes after funding reform were faster in the share of students receiving full-time and part-time special education. This result reflects those of Cullen (2003) and Kwak (2010), who found that fiscal incentives are greater in small districts.

The initial levels of students receiving full-time and part-time special education and being taught in special classes were also related to the rate of changes, indicating that practices before the reforms affected the changes after the reforms (Study 1). Thus, it seems that, while implementing the reform, local authorities have tried to retain the existing structures and adapt the new forms of support to them. Accordingly, the local context and existing structures of special education play a role in how practices have changed after the reform, as the earlier literature (e.g., Anderson, 2010; Berman & McLaughlin, 1976; Fullan, 2016; Mahitivanichcha & Parrish, 2005a) suggested.

Moreover, the resources and schools' or municipalities' differing financial situations can explain the variation in the provision of special education among schools and municipalities (e.g., Kirjavainen et al., 2014b). For instance, those principals who viewed changes in support arrangements more negatively were also those who argued that more resources for special education are needed (Study 3). However, according to Study 1, municipalities'

financial situations did not explain the variation in the rate of change after the reforms. Instead, Study 1 showed that special class placements were more common in municipalities with better financial situations. As mentioned above, the principals believed that special classes are pedagogically but not financially the most effective learning environment for students with SEN (Study 2). Hence, it could be that the placement of students with SEN are driven more by the resources than by ideological reasons, such as the aim to promote inclusive education. If this is the case and the integration of students with SEN to general education classes has been done at the expense of high-quality pedagogical practices – that is, without adding resources in these settings – the fundamental aims of inclusive education, such as enhancing community and participation, are difficult to achieve (Haug, 2017; Thomas, 2013).

Furthermore, as shown in Study 2, there were differences among municipalities in how they allocated resources to schools. This indicates that funding formulas operate not only at state level but also at the municipal level, as Fletcher-Campbell et al. (2003) wrote. However, it seems that not all the variations in the share of students receiving special education can be explained by existing structures or financial factors but that there is also regional variation in needs, as Baker and Ramsey (2010) noted. For example, socio-economic factors may explain a variation in the identification rates (Anderson et al., 2015; Kvande et al., 2018; Powell, 2006; Skiba et al., 2008; Sullivan & Bal, 2013), which was also shown in Studies 1 and 2.

5.3 Strengths, limitations and ethical issues

Previous studies (e.g., Ekstam et al., 2015; Pesonen et al., 2015; Thuneberg et al., 2014) of the latest Finnish special education reforms have concentrated mainly on the reform of the Basic Education Act. The strength of the present research is that, by using longitudinal data, it took into account both the funding reform and the reform of the Basic Education Act. These two reforms were partly overlapping and may have had a joint effect on special education provision. As the present research indicated, both of the reforms altered the practices of special education. Taking into account funding and resources of special education, this research supplied a deeper insight into changes in special education after the reforms. However, all the changes in special education cannot be interpreted to be a result of the recent reforms. For instance, the slight decline in special class placements had already started prior to the reforms, showing that the principles of inclusive education had already influenced Finnish education policy (see Graham & Jahnukainen, 2011).

Using three kinds of data, the present research examined changes in special education practices after the reforms. The tri-data foundations of this research are one of its strengths.

Interview data added the understanding of the municipalities' diverse approaches to organizing and providing resources for special education, as well as the meanings that municipal education authorities attached to the reforms. A nationally representative survey, instead, extended knowledge of the practices of and changes in special education at school level, whereas the official statistics made it possible to study changes of special education at municipal level in the longer term.

However, the data used in this study had some limitations. First, by using the survey and interview data, it was difficult to overcome the obstacle called the wall of professionalism (see Alastalo & Åkerman, 2010). This means that participants' responses were likely motivated, at least in part, by what they perceive as socially acceptable. Thus, they may have reported the special education arrangements to be in line with legislation. For example, they viewed that, of the two reforms, the reform of the Basic Education Act has exerted more influence on the practices of special education than the funding reform. But the official statistics indicated that the funding reform altered the provision of part-time special education and special class placements slightly more than the reform of the Basic Education Act.

Second, some background variables, which could have been essential to describe school's resources and, thus, to explain differences in principals' views, were not asked about in the survey. In addition, the survey did not include questions about the earlier experiences and knowledge of the principals related to educational reforms or the social structure of schools. Yet, they affect how policy is perceived, interpreted, and implemented, and the role of principals in creating the social structure of schools is essential (Smylie & Evans, 2006; Spillane et al., 2006).

Third, survey and interview data were gathered in 2012 and the reforms in legislation were put into effect in 2010–2011. Since educational changes take time (Berman & McLaughlin, 1976; Fullan, 2016; McLaughlin, 2006), it was difficult to discover the grounds of those data, if any lasting changes have occurred in the practices of special education. Thus, the official statistics provided more information on this issue. However, the fourth limitation of the data was related to official statistics. They described only the share of students receiving special education or being placed in special classes but did not provide information on how these students have been supported.

In Study 1, the piecewise linear latent growth curve modelling (PLGM) was used. The strength of this analysis method was that it enabled a clear demonstration of how the rate and direction of changes in special education provision varied from phase to phase and across municipalities. Thus far, this method has been rarely used in studies concerning education policy reforms. Therefore, the present research also has methodological implications for education policy studies by providing an example of how PLGM could be applied to policy reforms.

In policy implementation studies, it has been usual to focus on formal professional groups on the whole, although the recent studies have also acknowledged that there can be sub-groups within these formal professional groups (Honig, 2006b). The participants of the present study were selected based on their formal professional affiliation. However, it was not assumed that they share similar views but can form sub-groups based on their views. In Study 3, latent class analysis (LCA) was employed. It provided a method to group principals according to their views on changes in different arrangements. Therefore, the differences in views could be analysed. LCA was chosen instead of standard cluster analysis techniques, because it provides clearer criteria for clusters and enables covariates to predict class membership in model (Vermunt & Magidson, 2002). Yet, the limitation of LCA lies in the fact that the meaning of latent groups or their labels are primarily the researcher's interpretation of the response pattern.

Ethical issues were taken into consideration by following the guidelines of the Finnish Advisory Board on Research Integrity (2013) during the research process. When collecting interviews and survey data, participants were informed the aims, sources of financing, and expected duration of the study. In addition, they were also informed that participation was voluntary. Concerning the survey, participants were told that register data providing information on municipal variables could be added to the dataset. Before interviews, permission to record interviews were obtained from all interviewees. Moreover, the participants' anonymity was guaranteed when analysing data and reporting results. Related to official statistics used in Study 1, the source of the statistics was reported according to a contract made with Statistics Finland. In all three original study reports, the source of financing was reported.

5.4 Implications of the study and future research

The present research studied the reforms and changes in special education from the administrative perspective. In Finland, this approach to studying special education has been rare. Thus, this research contributes to the understanding of the administration of special education and offers the street-level workers' viewpoint of the reform. Berman and McLaughlin (1976) stated that educational reform has rarely been implemented according to its initial aims. They also characterized the successful implementation of education reform as mutual adaptation, meaning that both the reform and the institutional settings adapt. The Finnish reform of special education allowed this kind of adaptation, for local authorities and schools could have implemented reform and changed their practices independently without strict restrictions (Björn et al., 2016; Jahnukainen & Itkonen, 2016). Trust in school personnel is typical of education policy and educational reforms in Finland (e.g., Sahlberg, 2010a, 2010b, 2011).

The present research showed that practices have changed according to the aims of the reform and differences in the provision of special education across municipalities have decreased. Still, there is variation in the practices and in changes among municipalities and schools. In a decentralized education system, which the Finnish system is, the variation in special education practices is larger than in centralized systems (Richardson & Powell, 2011). It seems that local authorities have implemented the reform and used their discretion in implementation by adapting the reform to fit their local context and existing practices. Before the reforms, there was a concern about municipal variation in special education (Ministry of Education, 2007). Despite this, the reforms emphasized that local context and regional variation in the capacity to support students should be taken into account when assessing the need for support (Government of Finland, 2009a).

The strengths of the Finnish system and its reforms have been the professional responsibility and autonomy of municipalities and schools (Sahlberg, 2010a, 2010b). Thus, although the municipal autonomy to adapt reforms means that the reform has not been implemented necessarily as intended and that there is variation in the reformed practices, the adaptation and flexibility in the implementation can be seen as necessary in order to achieve changes in organizational practices (Anderson, 2010; Berman & McLaughlin, 1976). Nevertheless, further studies of the causes of the variation in practices of special education would be worthwhile. Similarly, more information on how the sense-making and adaptation of the reforms at the different levels occurs would help administration at the state and local levels in planning the implementation of the school reforms. Hence, a greater focus on organizational learning but also on system learning would be useful in future studies, as McLaughlin (2006) suggested.

The present research concentrated on the street-level workers' views on changes. Although the street-level workers are essential actors in the policy implementation process (see Honig, 2006c; Maynard-Moody & Musheno, 2003; Weatherley & Lipsky, 1977), research is also needed on the views of other target groups (e.g., parents and students) and on the effects of the reform on them. For example, further research could investigate the consequences of the reforms at the student level as well. As McLaughlin (2006) pointed out, it should be considered how the success of implementation is measured: does it, for example, mean that structures and practices are changing or that students' learning and performance are improving?

The concern about the increase in special education was one of the main reasons for the reforms. As the present research revealed, the share of students receiving special support decreased after the reforms. However, the share of students receiving intensified support has increased steadily after the launching of the tiered support system (see Figure 1). This share has grown more rapidly than the share of students receiving special support has decreased. Moreover, the recent official statistics (Figure 1) show that the share of students

receiving special support seems to increase again. Further research should be carried out to see if intensified support as early support is efficient enough and can reduce the need for special support. The student-level register data would be useful in this kind of research. Unfortunately, the official statistics include only school and municipal level information.

In Finland, educational reforms have traditionally aimed to secure equal opportunities for all and early intervention (Sahlberg, 2010a, 2010b, 2011). Ahtiainen (2017) highlighted that the latest Finnish reform was not based on the idea of improving student performance but on supporting the learning and schooling of students. Hence, at the student level, the aims of the reforms have been achieved if all students receive sufficient support. Recent PISA studies (OECD, 2016) indicated that the performance of Finnish students has declined in the 2010s. So far, the reasons behind this decline have not been explained. Nevertheless, future research could focus more on the relationship between the support students receive and students' performance. If differences in the support practices among schools and municipalities cause differences in students' learning and performance, more regulations of the support and its resource allocation are needed to guarantee all students equal opportunities in education.

In addition to the principles of equal opportunities for all and early intervention, the Finnish educational reforms have also been based on equitable resource allocation (Sahlberg, 2010a, 2010b, 2011). The funding reform discontinued weighted funding for students in full-time special education (i.e., receiving special support). Although the Finnish municipalities can decide how they use funds, they also have the responsibility for making budget cuts in special education (see Rinne et al., 2002; Simola et al., 2017). Launching a census-based system has increased municipalities' share of special education funding (Dhuey & Lipscomb, 2011). It might have incentivized the service reductions and less costly placements (Dhuey & Lipscomb, 2013), especially in those municipalities where the financial situation was weak, thus leading to greater variation in practices and inequity in the quality of special education services.

Hence, at least partly, municipal differences in practices and changes are due to municipalities' different financial situations, as this study and that of Kirjavainen et al. (2014b) showed. However, municipalities and schools may also have their own funding systems (Fletcher-Campbell et al., 2003), which might be different from the state funding system. Thus, municipalities may have their own incentives. The municipal and school level funding systems and their influence on special education practices would be a fruitful area for further research.

The present research indicated that the funding reform altered not only identification rates but also provision of support, such as part-time special education, which has a significant role in the Finnish support system (e.g., Graham & Jahnukainen, 2011; Jahnukainen, 2011). The funding and support system were reformed at the same time. Following Mahiti-

vanichcha and Parrish (2005b), it can be stated that the fiscal incentives of funding reform should be consistent with the aims of the reformed support system. However, this seems not be the case in the Finnish reform. Part-time special education was reduced because of the funding reform. The reformed funding system does not directly promote its use, although part-time special education has an essential role in the reformed support system.

Resources and their allocation, however, should be considered early on when planning the reform and its implementation (e.g., Levin & Fullan, 2008). Although financial resources cannot assure successful policy implementation (e.g., Berman & McLaughlin, 1976), they are significant in policy implementation. With financial resources, it is, for example, possible to build the capacity of school personnel, thus enhancing implementation. When local needs and resource conditions are not compatible with the reform, the degree of adaptation to the reform is likely greater, meaning that the variation in practices increases (e.g., Anderson, 2010; Weatherley & Lipsky, 1977). Therefore, if one of the aims of the policy reforms is to reduce regional differences in special education services, government funding should take the variation in local needs into account in order to ensure that it is possible to arrange sufficient support services within all municipalities.

However, the meaning of resources in policy implementation depends on different dimensions, namely policy, people, and places, and the interaction among them (Honig, 2006b). Thus, there is no one single way by which policy implementation can be promoted. Complex connections among different dimensions, as well as among different levels of the education system, have to be taken into account in policy implementation and its study.

Yhteenveto

Politiikkaa uudistamassa, käytäntöjä muuttamassa? Erityisopetus Suomessa koulutusuudistusten jälkeen

Erityisoppilaiden määrä on kasvanut selvästi viime vuosikymmeninä. Samaan aikaan erityisoppilaiden määrän kasvaessa inklusiivisen kasvatuksen ideologia on voimistunut koulutuspolitiikassa. Nämä kaksi ilmiötä ovat myös ohjanneet viime aikaisia erityisopetuksen uudistuksia. Pedagogisten syiden lisäksi uudistusten taustalla ovat vaikuttaneet taloudelliset syyt, sillä erityisoppilaiden määrän kasvaessa myös erityisopetuksen kustannukset ovat kasvaneet. Uudistusten yhtenä tavoitteena onkin ollut pysäyttää erityisoppilaiden määrän ja erityisopetuksen kustannusten kasvu. Tämä oli yksi keskeinen peruste erityisopetuksen uudistuksille myös Suomessa 2010-luvun alussa, jolloin erityisopetuksen rahoitusta ja perusopetuslakia uudistettiin.

Rahoitusjärjestelmän uudistamisen myötä 9-vuotisen oppivelvollisuuden piirissä olevista erityisoppilaista maksettava korotettu valtionosuus poistui ja siirryttiin väestöpohjaiseen rahoitukseen. Perusopetuslain uudistaminen taas tarkoitti siirtymistä oppimisen ja koulunkäynnin tuen järjestelmään, jossa oppilaalle tarjottava tuki jaetaan yleiseen, tehostettuun ja erityiseen tukeen. Sen lisäksi, että perusopetuslain uudistamisella pyrittiin vaikuttamaan kasvaneeseen erityisoppilaiden määrään, tavoitteena oli vahvistaa varhaista tukea, lisätä tuen suunnitelmallisuutta, tehostaa käytössä olevia tukijärjestelyjä ja edistää näin inklusiivisen kasvatuksen tavoitteita.

Tässä tutkimuksessa tarkasteltiin, ovatko erityisopetuksen käytännöt muuttuneet kunnissa ja kouluissa uudistusten tavoitteiden mukaisesti ja millaista vaihtelua erityisopetuksen käytännöissä ja niiden muutoksissa on kuntien ja koulujen välillä. Aineistona tutkimuksessa olivat syksyllä 2012 toteutettu rehtorikysely ($N = 335$), samaan aikaan tehdyt opetustoimen johdossa työskentelevien haastattelut ($N = 7$) ja Tilastokeskuksen keräämät erityisopetuksen viralliset tilastot 301 kunnasta vuosilta 2008–2014.

Tutkimus koostui kolmesta osatutkimuksesta. Ensimmäisessä osatutkimuksessa tarkasteltiin erityisopetusta saavien oppilaiden osuuksien muutoksia kunnissa vuodesta 2008 vuoteen 2014. Osatutkimuksessa selvitettiin kuntien välistä vaihtelua näissä osuuksissa ja niiden muutoksissa sekä sitä, millaiset tekijät selittävät tätä vaihtelua. Toisessa osatutkimuksessa huomio kohdistettiin kuntien ja koulujen erilaisiin tapoihin järjestää ja resursoida erityisopetusta sekä selvitettiin, millaisia merkityksiä kunnan opetustoimen johdossa työskentelevät ja peruskoulujen rehtorit antavat erityisopetuksen uudistuksille. Kolmannessa osatutkimuksessa tarkasteltiin tukijärjestelyjen muutoksia koulutasolla. Keskeisenä kysymyksenä oli, millä tavoin rehtorit arvioivat tukijärjestelyjen muuttuneen perusopetuslain uudistamisen jälkeen ja millaisia alaryhmiä rehtoreista voidaan muodostaa heidän näkemystensä perusteella. Lisäksi tutkittiin, millaiset tekijät erottelevat näitä alaryhmiä toisistaan.

Ensimmäinen osatutkimus osoitti, että erityisopetuksen uudistukset muuttivat erityisopetusta saavien oppilaiden osuutta kunnissa. Muutokset olivat hieman suurempia rahoitusjärjestelmän uudistuksen kuin perusopetuslain uudistuksen jälkeen. Erityistä tukea saavien ja erityisryhmissä opettavien oppilaiden osuus väheni sekä rahoitusjärjestelmän että perusopetuslain uudistuksen jälkeen. Myös osa-aikaista erityisopetusta saavien oppilaiden osuus väheni rahoitusjärjestelmän uudistamisen jälkeen. Osuus kuitenkin kääntyi jälleen kasvuun perusopetuslain uudistuksen jälkeen. Tulokset osoittivat myös, että kuntien väliset erot erityisopetusta saavien oppilaiden osuuksissa pienenevät rahoitusjärjestelmän uudistuksen jälkeen. Kuntien väliset erot erityistä tukea saavien ja erityisryhmissä opettavien oppilaiden osuuksissa pienenevät myös perusopetuslain uudistuksen jälkeen. Sen sijaan kuntien väliset erot osa-aikaista erityisopetusta saavien oppilaiden osuuksissa eivät muuttuneet tämän uudistuksen jälkeen.

Suurissa kunnissa erityistä tukea saavien ja erityisryhmissä opettavien oppilaiden osuudet olivat suurempia kuin pienissä kunnissa, kun taas pienissä kunnissa osa-aikaista erityisopetusta saavien oppilaiden osuus oli suurempi. Rahoitusjärjestelmän uudistuksen jälkeen erityistä tukea ja osa-aikaista erityisopetusta saavien oppilaiden osuus pieneni nopeammin pienissä kuin suurissa kunnissa. Sen sijaan erityisryhmissä opettavien oppilaiden osuus pieneni pienissä kunnissa hitaammin kuin suurissa kunnissa. Kunnan väestörakenne ja taloudellinen tilanne selittivät erityisoppilaiden osuuksia kunnissa vuonna 2008. Väestörakenne selitti myös jonkin verran osuuksien muutoksia uudistusten jälkeen, kun taas taloudellinen tilanne ei ollut juuri yhteydessä muutoksiin.

Toinen osatutkimus osoitti, että opetustoimen johdossa työskentelevät kokevat panostaneensa perusopetuslain uudistuksen jälkeen aiempaa enemmän varhaiseen tukeen. Erityisopetuksen vanhat rakenteet kunnissa ja kouluissa näyttivät kuitenkin ohjaavan erityisopetuksen järjestämistä myös uudistusten jälkeen. Osatutkimus osoitti, että kunnissa on tarvetta suunnata uudelleen erityisopetuksen resursseja muun muassa lisäämällä resursseja

osa-aikaiseen erityisopetukseen erityisryhmiä vähentämällä. Kuntien opetustoimen johto ja koulujen rehtorit arvioivat perusopetuslain uudistuksen vaikuttaneen erityisopetuksen käytäntöihin enemmän kuin rahoitusjärjestelmän uudistuksen.

Kolmas osatutkimus osoitti, että perusopetuslain uudistus on parantanut kouluissa oppimissuunnitelman käyttöä. Sen sijaan osa-aikaisen erityisopetuksen tilanne on rehtorien mukaan heikentynyt uudistuksen jälkeen. Rehtorit voitiin jakaa tukijärjestelyjen muutoksia koskevien näkemysten mukaan neljään alaryhmään. Suurimman ryhmän muodostivat rehtorit, jotka kokivat tukijärjestelyjen pysyneen muuttumattomina perusopetuslain uudistuksen jälkeen. Toinen alaryhmistä arvioi erityisesti pedagogisten tukijärjestelyjen parantuneen uudistuksen jälkeen. Kolmas alaryhmä arvioi ainoastaan oppimissuunnitelman käytön parantuneen mutta erityisesti osa-aikaisen erityisopetuksen ja perheiden kanssa tehtävän yhteistyön heikentyneen uudistuksen jälkeen. Neljäs ryhmä arvioi tukijärjestelyjen heikentyneen tai pysyneen muuttumattomina uudistuksen jälkeen. Rehtorin työkokemus, koulun koko ja resurssit sekä alue erottelivat ryhmiä toisistaan.

Tämän tutkimuksen mukaan erityisopetuksen uudistukset ovat muuttaneet erityisopetuksen tarjontaa sekä käytäntöjä kunnissa uudistusten tavoitteiden mukaisesti. Uudistusten jälkeen kunnissa on kiinnitetty aiempaa enemmän huomiota varhaiseen tukeen. Perusopetuslain uudistuksen jälkeen oppimissuunnitelman käyttö, johon lakiuudistus selvästi ohjasi, on parantunut kouluissa. Kaiken kaikkiaan kunnissa ja kouluissa on kuitenkin vaihtelua erityisopetuksen käytännöissä sekä siinä, miten nämä käytännöt ovat muuttaneet uudistusten jälkeen. Erityisesti kunnan ja koulun koko selittävät tätä vaihtelua. Kunnat näyttävät sopeuttaneen uudistusten tuomat muutokset olemassa oleviin rakenteisiin ja erityisopetuksen käytäntöihin. Tutkimus vahvistaa aiempia tuloksia siitä, että alueelliset tekijät vaikuttavat uudistusten toteuttamiseen.

Tämä tutkimus osoittaa myös, että uudistukset ovat pysäyttäneet erityisoppilaiden määrän kasvun, mikä oli uudistusten yksi keskeinen tavoite. Erityisesti rahoitusjärjestelmän uudistus näyttää muuttaneen erityisopetuksen tarjontaa kunnissa. Rahoitusjärjestelmän uudistus ei ole kuitenkaan kaikilta osin tukenut perusopetuslain uudistusta, mikä tulee esille erityisesti osa-aikaisen erityisopetuksen tarjonnassa. Uudessa oppimisen ja koulunkäynnin tuen järjestelmässä osa-aikaisella erityisopetuksella on merkittävä rooli, sillä se mahdollistaa oppilaiden varhaisen tukemisen ja sitä voidaan käyttää kaikilla tuen tasoilla. Uudistus näyttää kuitenkin heikentäneen osa-aikaisen erityisopetuksen resursseja kunnissa. Vaikka taloudelliset resurssit ja niiden vaihtelu selittävät vain osittain sitä, miten uudistuksia kunnissa ja kouluissa toteutetaan, olisi koulutusuudistuksissa tärkeää ottaa huomioon, että rahoitusjärjestelmän uudistus on samansuuntainen muiden uudistusten kanssa ja tukee niiden tavoitteita.

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APPENDICES

Appendix 1. Questions of the principal survey used in Study 2

<p><i>Arrangements of support</i></p> <p>Are the following persons involved in making pedagogical assessments for intensified support?</p> <p>Are the following persons involved in making learning plans for students receiving intensified support?</p> <p>Are the following persons involved in making pedagogical statements for special support?</p> <p>Are the following persons involved in making individual educational plans for students receiving special support?</p> <p>Scale: 1 = Never, 2 = When necessary, 3 = Always, and 4 = I don't know.</p> <p>(1) Homeroom teacher (2) Other teachers (3) Special education teacher (4) Principal (5) School social worker (6) School psychologist (7) Special needs assistant</p>
<p>Who makes the decision about special support in your school?</p> <p>(1) Classroom teacher (2) Special teacher (3) Principal (4) Head of local education department (5) Local education committee (6) Someone else (7) I don't know</p>
<p>Have decisions about discontinuing special support been made in your school during the last year?</p> <p>(1) Yes (2) No (3) I don't know</p>

APPENDICES

<p>How has the teaching for students receiving intensified support been arranged in your school during the last year? <i>You can choose several options.</i></p> <p>How has the teaching for students receiving special support been arranged in your school during the last year? <i>You can choose several options.</i></p> <p>(1) Teaching has been arranged in a general education class (2) Teaching has been arranged in a general education class but a student has received part-time special education apart from his/her own teaching group on demand (3) A student has studied mainly in a general education class but has studied in a special class on demand (4) A student has studied mainly in a special class but has studied in a general education class on demand (5) A student has studied fully in a special class (6) A student has studied partly in home-school (<i>This option applied only to students receiving special support</i>) (7) A student has studied fully in home-school (<i>This option applied only to students receiving special support</i>) (8) There has not been any student receiving intensified support/special support in school during the last year (9) Some other option (10) I don't know</p>
<p>What is, in your opinion, the financially best way to arrange teaching for students receiving special support?</p> <p>What is, in your opinion, the pedagogically best way to arrange teaching for students receiving special support?</p> <p>(1) A general education class (2) A special class (3) A special school (4) Some other option</p>
<p><i>Resources of support</i></p>
<p>How would you assess the need for special education in relation to the resources of special education in your school?</p> <p>(1) Need is much greater than resources (2) Need is somewhat greater than resources (3) Need and resources are equivalent (4) Need is somewhat smaller than resources (5) Need is much smaller than resources</p>

If you assessed that the need for special education is greater than the resources in your school, which special education areas are in need of extra resources? *Select the area which needs the most resources and the area which needs the second-most resources.*

- (1) Part-time special education
- (2) Forming new special groups
- (3) Co-teaching
- (4) Employing qualified special education teachers
- (5) Employing special needs assistants
- (6) School psychology services
- (7) School social work services
- (8) Speech therapy services
- (9) Physical learning environment (e.g. classrooms)
- (10) Learning material
- (11) Instructional tools
- (12) Intervention in behavioural problems of the students
- (13) Some other area

If you assessed that the need for special education is greater than the resources in your school, for which reasons can special education not be provided corresponding to need? *Select the greatest and second-greatest reasons.*

- (1) Scant financial resources for basic education in a municipality
- (2) Enough special services are not available
- (3) Scant human resources
- (4) The expertise of personnel is insufficient
- (5) The use of available resources is inefficient
- (6) The available resources have not been spread fairly among schools in a municipality
- (7) The need for special education cannot be predicted when deciding resources
- (8) Some other reason

The government transfer system for basic education was reformed in 2010 when the augmented government transfer for students receiving special education in nine years of compulsory education was discontinued. How would you assess the effect of this reform on the availability of special education in your school?

The Basic Education Act was reformed in 2011. How would you assess the effect of this reform on the availability of special education in your school?

- (1) Reform weakened the availability of special education services
- (2) Reform did not affect the availability of special education services
- (3) Reform improved the availability of special education services
- (4) I don't know

Which factors guide the allocation of special education resources among teaching groups in your school?

Appendix 2. Questions of the principal survey used in Study 3

<i>Background questions</i>
Work experience as a principal (years)
How many students are in your school?
Do you work in (1) a primary school (Grades 1–6), (2) a lower secondary school (Grades 7–9), or (3) a comprehensive school (Grades 1–9)?
Do you have work experience in special education?
Have you participated in training concerning a support for learning and schooling?
Has the school in which you work participated in the initiative Action to Develop Intensified and Special Support?
How would you assess the need for special education with relation to the resources of special education in your school?
<i>Support arrangements</i>
<p>What is, in your opinion, the condition of the following support arrangements in your school?</p> <p>What was, in your opinion, the condition of the following support arrangements in your school before 2011 when the amendments to the Basic Education Act came into effect?</p> <p>Scale: 0 = Does not exist in our school, 1 = Poor, 2 = Average, 3 = Good, and 4 = Very good.</p> <p>(1) Classroom teachers or subject teachers are co-teaching together (2) A special education teacher is co-teaching with a classroom teacher or a subject teacher (3) Teaching groups vary flexibly (4) Remedial teaching is arranged for students (5) A learning plan is drafted for a student (6) Students are receiving part-time special education (7) Special needs assistants are supporting students (8) Staff coordinate with families in order to support students (9) The student welfare team is seeking solutions on how to support students (10) Teachers are differentiating their instruction</p>

Appendix 3. Interview framework

Background information on a interviewee and a municipality

Organization of special education in the municipality

- What kind of special education services are available in the municipality?
- Who is in charge of special education in the municipality?
- What kind of decision making process concerning special education is in the municipality?
- What kind of factors guide the organization of special education in the municipality?
- How has the share of students in special education changed in recent years? Which factors explain the possible changes?
- How has the reform of the Basic Education Act (in 2011) influenced special education in the municipality?
- What kind of regional differences in the organization of special education are in the municipality?

Resources of basic education and special education in the municipality

- What kind of resources for basic education are in the municipality?
- What kind of changes have occurred in resources in recent years?
- How have the changes in resources influenced the organization of special education?
- How has the reform of the state subsidy system (in 2010) influenced the availability and organization in the municipality?

Future challenges of basic education and special education in the municipality

ORIGINAL PAPERS



How do educational reforms change the share of students in special education? Trends in special education in Finland

by

Jonna Pulkkinen, Eija Räikkönen, Markku Jahnukainen & Raija Pirrtimaa

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**Finnish reform of the funding and provision of special
education: the views of principals and municipal education
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by

Jonna Pulkkinen & Markku Jahnuainen (2016)

Educational Review, 68(2), 171–188

**Finnish Reform of the Funding and Provision of Special Education: The Views of
Principals and Municipal Education Administrators
Educational Review**

Jonna Pulkkinen and Markku Jahnukainen

Abstract

This study examines the current state of special education provision and resources in Finland after the extensive reform of the government transfer system and Basic Education Act implemented in 2010–2011. Data were collected from a survey of compulsory school principals and from interviews with the highest-ranking officials in municipal education administration. The results show that participants viewed the Basic Education Act as having a more significant impact on the provision of special education than the reform of the government transfer system. Partly due to the reforms, local authorities have targeted the resources of special education differently and used resources more effectively. Continued efforts are needed to ensure the provision of resources for part-time special education and the use of other forms of early intervention in general education classrooms.

Keywords: educational reform; education finance; education policy; inclusive education; special education

Introduction

Reforms of special education are under way in many countries, driven by general ideological and pedagogical reasons, such as the goal to promote inclusive education and a more individualised approach to educating the rising number of pupils with special educational needs (SEN). However, educational policy reforms are also strongly influenced by financial considerations: As in administration in other sectors, education also strives for efficiency and productivity. Following Richardson and Powell (2011), it can be argued that in the long term, prosperous welfare states have been able to provide special education to an increasing number of pupils. Due to the straitened public economy, however, the current form of special education has become a target of financial reforms in many educational systems because of the rising number of pupils in need of special education and its higher per-pupil cost. A well-known example is the Response to Intervention in the United States, which combines ideological and pedagogical objectives with the goal to decrease the number of Tier 3 pupils (e.g. Haager 2008; Jahnukainen and Itkonen 2014).

A reform with similar objectives has been on-going in Finland since 2010, although through two different channels: a reform of the government transfers system, on one hand, and a reform of the Basic Education Act regarding the provision of special education, on the other hand. A new government transfers system was launched in early 2010. Previously, funding was based on the number of pupils with special needs (pupil weighting), whereas the new system calculates the government transfer for basic education based on the number of compulsory-school-aged residents in a municipality (census-based). The model for the provision of special education implemented in early

2011 consists of three tiers and stresses the importance of early intervention more than the old model. These Finnish reforms (the government transfer system and Basic Education Act) served as the starting point for this study.

Inclusion and Funding of Special Education

In recent decades, Finland and the world have seen an increasing trend to educate more pupils with SEN in general education classroom settings. However, some studies (e.g. Graham and Sweller 2011; Kirjavainen, Pulkkinen and Jahnukainen 2014b) have found that segregated placements have not decreased; instead, the increase of pupils with SEN in general education classrooms has resulted from the overall growth in the identification of pupils with SEN. Available resources and supports are considered when professionals decide whether to place a pupil with SEN in a general education classroom (Jahnukainen 2015).

Norwich (2008) has demonstrated that professionals recognise the dilemma involved in the placement of pupils with SEN (reduced specialist provision or exclusion) and seek to balance inclusion and separate provision to resolve this dilemma. Similarly, Norwich (2009) has shown that there is a dilemma in the identification of pupils with learning difficulties (treating students as different or ensuring additional educational resources). However, inclusion is a matter not only of the placement and identification of pupils with learning difficulties or disabilities but also of how to enhance the participation of all pupils and remove barriers to participation at schools and in society (see Ferguson 2008; Thomas 2013; Vislie 2003).

The funding system for special education affects its provision. Special education funding formulas can be categorized by how they allocate funding (e.g. Fletcher-Campbell et al. 2003; Parrish and Harr-Robins 2011). Other characteristics of funding formulas include the direct recipient of funds (e.g. pupils, parents, schools, municipalities), the means of distribution (e.g. money, materials) and any restrictions on the use of means (Fletcher-Campbell et al. 2003). The two most well-known funding formulas allocate funds based on the number of pupils with SEN (pupil weight or input funding) or total enrolment (census-based or throughput funding). Other formulas are, for example, based on the output or number of specific education resources (see Fletcher-Campbell et al. 2003; Parrish and Harr-Robins 2011). Funding formulas operate not only at state level but also at the municipal and school levels (Fletcher-Campbell et al. 2003).

Every special education funding formula contains some fiscal incentives, which affect practices of the special education (Mahitivanichcha and Parrish 2005a, 2005b). According to several studies (e.g. Cullen 2003; Greene and Forster 2002), funding systems offering fiscal incentives for transfers into special education tend to increase disability rates. Although the pupil weight (input) formula is often perceived as causing the growth of referrals for special education, it can also encourage inclusive education if the funding is based on the number of pupils with SEN in general education classrooms (Fletcher-Campbell et al. 2003).

In contrast, adopting a census-based (throughput) system has been found to decrease disability rates, especially in less severe categories of disabilities (e.g. Dhuey and Lipscomb 2011; Kwak 2010), as the number of pupils with SEN has no effect on funding in this model. Census-based systems, though, do give rise to a different set of

challenges. For example, a census-based system might encourage the provision of special education with fewer services (Mahitivanichcha and Parrish 2005a, 2005b). Baker and Ramsey (2010) criticised such systems for assuming that the need for special education and the number of children with disabilities are the same regardless of locality. Such a system can increase regional inequality as variations in needs are not taken into account. In addition to the funding system, the number of pupils with SEN and the provision of special education are affected by a region's social, economic and political conditions and historical traditions of special education provision (Mahitivanichcha and Parrish 2005b). These factors can cause regional inequities in special education funding and costs (Fletcher-Campbell et al. 2003; Parrish and Harr-Robins 2011).

As noted by Fletcher-Campbell et al. (2003), funding is not the only tool to promote inclusion, but fiscal policy can support other policy objectives. Likewise, Parrish and Harr-Robins (2011) have pointed out that funding should be consistent with program goals and objectives, no matter which funding formula is used.

Previous and Current Provision and Funding of Special Education in Finland

In Finland, local authorities (municipalities) generally arrange the provision of basic education (preschool education and grades 1–9). In 2013, 96% of comprehensive schools were municipal (Official Statistics of Finland 2013b). Though the national government guides the provision of education through legislation and national core curricula, local authorities are responsible for designing local curriculum, making practical teaching arrangements (e.g. class size and grouping practices) and evaluating education (Halinen and Järvinen 2008). The government also allocates money for basic education to local

authorities who independently determine the use of these funds. In addition to basic funding, the government sometimes gives education providers targeted grants which must be used for specified purposes.

Before the amended Basic Education Act (Law 642/2010) went into effect in 2011, special education consisted of part-time special education and education for pupils accepted and transferred into special education¹ (education eligible for augmented government transfer). Pupils with mild learning difficulties could receive part-time special education (Halinen and Järvinen 2008) consisting early support whose provision was flexible and did not require documentation of need assessment or provision (Graham and Jahnukainen 2011). If a pupil needed more support, a transfer to special education required an official decision for special education, and an individual education plan (IEP) had to be drafted for the pupil (Law 628/1998; see also Halinen and Järvinen 2008). Figure 1 presents the historical trends in the number of pupils and the placement type for pupils with SEN.

The amended Basic Education Act introduced several new definitions to the system of special education. The reform instituted a three-tier support model called *Learning and Schooling Support*, which consists of general, intensified and special support (Finnish National Board of Education 2010). In this three-tier model, all pupils are entitled to general support (Tier 1) in their learning, which can include differentiated instruction, remedial teaching and part-time special education. Intensified support (Tier 2) is provided to pupils who need regular support or several forms of support simultaneously. These

¹ This is an administrative term. This option is commonly known as full-time special education but does not necessarily entail a full-time placement in special class or school. Instead, it refers to a significant and continuous need for special support.

forms of support are the same as for general support. Intensified support requires the teacher to draft a pedagogical assessment of the pupil's need for support. Based on the pedagogical assessment, a multi-professional pupil welfare team makes the decision to provide intensified support to a pupil. The provision of intensified support follows a learning plan drafted for the pupil.

Special support (Tier 3) is provided to pupils for whom intensified support is insufficient. The need for special support is assessed in a pedagogical statement. In addition to the forms of support provided in general and intensified support, special support also includes special education. An IEP defines the provision of special education (e.g. objectives, methods, learning environment) and other forms of support for pupils. Additionally, the syllabi studied by pupils receiving special support can be individualised. Transferring a pupil to special support requires that an official body or an employee appointed by the education provider make an administrative decision based on statements from teachers and the pupil welfare team and, if necessary, psychological, medical or social statements (Finnish National Board of Education 2010).

Before the reform of the government transfers system, basic education funding was determined by pupil numbers, and pupils with SEN in 9-year compulsory education received 1.5 times more funding than the basic amount. For pupils with disabilities in extended compulsory education², the funding was 2.5 times higher than basic funding, and for pupils with the most severe developmental disabilities, funding was increased

² Extended compulsory education begins one year earlier than typically provided and lasts 11 years, whereas compulsory education normally lasts nine years (Law 628/1998). Pupils in extended compulsory education have severe disabilities (e.g. visual or hearing impairments or severe physical or intellectual disabilities). Pupils with a serious illness may also be educated within extended compulsory education.

fourfold (Law 635/1998; see also Graham and Jahnukainen 2011; Jahnukainen 2011). After the reform, calculation of basic education funding was based on the number of compulsory-school-age residents (6 to 15 years old) in municipalities (Law 1704/2009). An important reform in special education funding discontinued the augmented government transfer for pupils in special education in 9-year compulsory education. Simultaneously, funding for pupils in extended compulsory education was separated from other funding for basic education, and education providers continued to receive an augmented transfer for these pupils (Law 1705/2009).

Background of the Finnish Reforms

Local authorities initiated the reform of special education even before the revised Act came into effect. In 2007, the Ministry of Education published a new strategy for special education which proposed amendments to the legislation on special education. In 2008, the *Action to Develop Intensified and Special Support* initiative (also called the Kelpo initiative) was launched to support education providers in developing practices to comply with the expected reforms required by the Basic Education Act (see Thuneberg, Vainikainen, et al. 2013). The initiative, completed in 2012, received funding of approximately 45 million Euros. In this way, the government supported development activity while allowing local authorities and schools to reform their practices independently. As Pijl and Frissen (2009) have stated, the best way for political decision-makers to promote genuine changes in the provision of teaching is to provide clear goals for reform and to support reform activities while allowing schools to decide how to implement the change.

In Finland, the share of pupils identified as having SEN (Tier 3 level) in the basic-education pupil population grew from 5.2% to 8.5% from 2001 to 2010 (Official Statistics of Finland 2013a). The increase was due mainly to increased identification of pupils in 9-year compulsory education; the proportion of pupils in extended compulsory education receiving special education has remained stable (Kirjavainen, Pulkkinen and Jahnukainen 2014b). One goal of the government transfer system reform was to stop the increase in identifying pupils with SEN (Government of Finland 2009b). The government proposal in the Act on Amendments to the Basic Education Act pointed out that existing statutes had not sufficiently prioritised pupils' perspective in needs assessment or guaranteed their right to timely support. The proposal noted that the lack of timely support might have been one cause of the increased identification of pupils with SEN. According to the government proposal, another problem in existing special education practices was that pedagogical considerations were not given sufficient weight nor schools' capacity to support pupils taken into account when assessing the need for support (Government of Finland 2009a).

However, concern was expressed over the reform's effects on the availability of special education services and the sufficiency of special education resources. The Education and Culture Committee of the Parliament of Finland (2009) issued a statement on the reform of the government transfers system and, citing the discontinuance of the augmented transfer for special education, noted that the reform could significantly weaken the quality of teaching for those with special needs. The committee proposed that the government monitor the availability and resourcing of special education. In a report on the reforms of the Basic Education Act, the Education and Culture Committee of the

Parliament of Finland (2010) stressed that timely and sufficient support should be ensured and that the need for additional funding caused by the reform should be taken into account.

In this study, we examined the current state of the provision, availability and resourcing of special education after the reforms of the Basic Education Act and the government transfer system. Our main research questions were:

- 1) How has the special education been arranged and resourced since the reforms?
- 2) How do municipal education authorities view the impact of the reforms?

Method

We examined the provision and funding of special education from the viewpoint of the actors responsible for the resources and use of special education within municipalities and individual schools. Our data were drawn from a survey of principals and interviews with the highest-ranking officials in municipal education administration. The datasets were collected in the autumn of 2012, approximately three years after the reform of the government transfers system and two years after the reform of the Basic Education Act.

The questionnaire was sent to 600 principals responsible for basic education. The research population consisted of principals in Finnish-language comprehensive schools run by local authorities. Questionnaires were returned by 335 participants, of whom 35% had experience as special education teachers. The majority (91%) of respondents had participated in further training for the implementation of the three-tier support model. The majority (83%) also reported that their school had participated in the Action to Develop Intensified and Special Support initiative. The questionnaire themes included

schools' special education resources, support for pupils' education (including all three tiers of support) and the arrangements for intensified and special support at schools. In this article, only the themes concerning support resources and arrangements are reported.

Semi-structured interviews were conducted with seven high-ranking officials in municipal education administration (in the results section, the interviewees are identified by role and interview number). The interviewees' titles varied from director of education, basic education or education and culture to education and cultural planning officer. All the interviewees had worked as teachers, and six had previous experience as a principal. Three interviewees had no experience as a special education teacher, two had some experience, and two held the statutory qualification as a special education teacher. The interviewees were purposefully selected from municipalities of different sizes in various parts of Finland. Before the interviews, the researchers studied the provision of special education in the interviewees' home municipalities (e.g. the municipal curricula, statistics on the development of numbers of pupils with SEN). Statistics on special education were also made available during the interviews so that the interviewees could refer to them when describing the processes and changes in special education provision in the municipality. Each interview lasted approximately an hour. The themes included the practices of arranging special education, the resources for basic and special education and future challenges in basic and special education in each municipality.

The questionnaire data was analysed using descriptive methods to examine the response distributions. Responses to open-ended questions were analysed with classification and quantification. The purpose of the expert interviews was to obtain a more detailed picture of the practices of arranging special education and the processes

initiated by local authorities in response to the reforms. Qualitative content analysis was employed on the interview data. The analysis framework was based on the goals of the reforms and the issues which the Parliament's Education and Culture Committee expected to be monitored after the reforms. Data were categorised as relevant to the provision of special education and related decision-making or to the resources and availability of special education. By combining the questionnaire and interview data, our study presents a picture of how the reforms of special education and funding has altered the provision and resourcing of special education in Finnish municipalities.

Results

In the first subsection, we describe the arrangements for support and special education. In the second subsection, we focus on the resources for support and special education.

Arrangements of Support and Special Education

The purposes of the reform were to decrease unnecessary transfers into special education and to reinforce the importance of need assessment. The reform aimed to transfer decision-making power for special education from external actors to schools so that the planning of support measures would rely more on the pedagogical expertise in schools, and the support services provided by schools would receive more attention. In addition, one goal of the amended Basic Education Act was to arrange pupil support in connection with mainstream teaching.

Decisions to Provide Support

Pedagogical expertise is of great importance in decisions in the three-tier support. Pedagogical experts' role in arranging special education was clearly revealed in the principals' responses when asked how often representatives of different professions were involved in making decisions related to the three-tier support. A high number of respondents reported that pupils' homeroom teacher and special education teacher were *always* included in assessments for special support and in designing the IEP (Tier 3) and that a school psychologist or school social worker participated in the assessment and planning of special support *only if necessary* (Table 1). As well, pupils' homeroom teachers and special education teachers played key roles in the pedagogical assessment and drafting of learning plans related to intensified support (Tier 2) (see Table 1).

The interviewees, too, emphasised the importance of pedagogical expertise in making decisions regarding special education. For example, one interviewee criticised the traditional set-up which involves non-pedagogical experts in decisions of a pedagogical nature.

As we see it, the know-how, the professional skills must be found among education professionals such as ourselves in municipal administration and in schools, and it's we, sort of, that have to make the decisions about how to arrange the education or what sort of support services we need for organising the teaching. (Administrator 1)

Some rules of procedure for the activity of municipal administration may actually dictate that education administrators make the final administrative decisions for special-needs support. About half the principals reported that the municipal director of education makes

administrative decisions regarding special support. In practice, however, principals are in charge of making the decisions, and special education and classroom teachers have a central role in the process.

The amended Basic Education Act stipulates in detail how special support decisions should be reassessed after the second and the sixth grades. Before the reform, there were no instructions on how regularly the decisions should be reviewed, and consequently, a transfer into special education could be permanent. As Figure 1 shows, the raw number and the relative proportion of pupils with SEN (Tier 3 level) decreased slightly after the reform of the Basic Education Act. Our questionnaire to the principals showed that, in approximately half of participating schools, decisions to discontinue special support in some cases in their schools were made after the reform of the Basic Education Act. The interviewees also stated that special support decisions are re-assessed regularly.

According to the interviews, local authorities consciously attempt to decrease the number of decisions to provide special support (Tier 3) and, as far as possible, to help pupils with the means available through intensified support (Tier 2). Some interviewees also thought that, before the reform, local authorities sometimes too easily transferred pupils into special education without first attempting to offer them other available forms of support.

Some interviewees expressed surprise that the number of special education students in their municipality had changed. In addition to the reassessment and revocation of special support decisions, the change could also be explained, for example, by fluctuations in the number of special education staff, which could increase the number of pupils in special education (e.g. through the establishment of a new post in special

education) or decrease it (e.g. through a special education teacher's lengthy leave, discontinuing a special education post). Some of the interviews also showed that local authorities had naturally understood the impact on funding from the government transfers reform, but only a few interviewees expressly noted the importance of funding for the arrangement of special education. One local authority had revised its internal budgeting policy even before the reform in order to prevent the continuous increase in the number of pupils with SEN.

We revised our policy of allocating money. We stopped support to schools for a pupil in special education and that a decision about special education gave them twice the amount of money, which encouraged the schools to take such decisions. (Administrator 7)

According to the interviewees, the decision-making process for special support differs among municipalities according to size and previous decisions regarding special education. In smaller municipalities, various incidental factors (e.g. setting up group family homes in the municipality, a family with several children requiring special support moving into the municipality) can significantly affect the need for special education. In municipalities with a higher number of pupils in special education than the national average, interviewees also explained the high levels by adult residents' low socio-economic background.

It [the high number of pupils receiving special support] is naturally caused by this tradition of the mining industry and by our age structure and by an excessive high rate of unemployment. The social problems of families have, therefore, been shown unavoidably at schools, too. (Administrator 1)

Arranging Support in Connection with Mainstream Teaching

The principals were asked to name the method of arranging special education they rated as the most effective pedagogically and financially. Among respondents, 56% considered teaching in special groups to be most effective pedagogically, while 64% felt that a mainstream teaching group is the most financially effective method of provision.

Although principals believed that providing special education in a mainstream teaching group is more effective financially than pedagogically, administrators did not regard moving special education from special groups to mainstream teaching groups as merely a financial issue. For example, one interviewee asserted that, in the long term, a mainstream teaching group is pedagogically a better alternative for a pupil with SEN than a special group.

Interviews with the administrators also revealed that, long before the most recent legislative reform, some local authorities had started to shift from special schools to small special groups working in connection with mainstream teaching. A similar trend seems to have gained ground in some but not all municipalities. Both the interviews and the principals' responses show that, under the reform of the Basic Education Act, schools set up separate groups for pupils receiving intensified support. Although separate groups are not among the interventions included in intensified support, they nevertheless seem to have been a necessary practice in some places, especially to decrease the use of special support.

Several schools share this small teaching group that we've been able to send pupils to, and they can receive intensified support there. That has helped, so

we haven't had to transfer anyone into special education at the first stages.

(Administrator 3)

Resources of Support and Special Education

One goal of the legislative reform was to safeguard adequate resources and the availability of special education. In this subsection, we present results relating to the allocation and adequacy of special education and the changes to resource allocation effected by legislative reforms.

Allocation of Resources in Municipalities and Schools

The findings of this study indicate that need primarily drives the allocation of special education resources in municipalities. For example, the interviewees reported that the need for special groups is reassessed every school year and that the resources are reallocated among schools according to need. In allocating municipal resources to schools, one factor taken into account is the number of decisions for special support. According to principals' responses, the allocation of special education resources in individual schools is affected, for example, by need (92 responses) and by the number of decisions for intensified and special support and related documents, such as IEPs and learning plans (40 responses).

The interviews show that, to some extent, teaching arrangements steer resource allocation in municipalities. For example, in a municipality with long distances between schools, special education resources were not available to village schools far from the centre. The interviews show that, in the case of a municipality where many pupils had

been placed in special classrooms, the authorities wished to allocate resources to special schools and special groups, instead of mainstream teaching groups. In contrast, a large municipality gave each school the same allocation, and the schools were free to decide what portion to devote to each form of support.

Adequacy of Special Education Resources

Our findings regarding the adequacy of special education resources are somewhat conflicting. According to principals, the special education resources allocated to schools do not correspond to need. In assessing their school's special education needs relative to the resources available, 19% of principals said that the need was much greater than the resources, while 59% said that the need was somewhat greater than the available resources.

In contrast, the scarcity of special education resources in relation to need did not arise in the interviews with education administrators. The administrators mostly assessed the need for and the provision of special education as in fairly good balance. The interviewees did, however, point out that resources should be reallocated to make supply and demand meet. They also spoke about decreasing the number of special groups and providing more support within mainstream teaching.

The resources that we're currently using for that, the resources as such are adequate, I would say. But then, to develop this, what we have to do is reorganise these things a bit but using the resources we've got at the moment.

(Administrator 3)

Similarly, when asked where additional resources were needed in special education and why the provision of special education could not equal the need, the principals described a need to reallocate and increase resources in mainstream teaching. Most frequently, the principals clearly wanted more resources for part-time special education (Figure 2), which can be used in general, intensified and special support.

The most important reason for insufficient resources mentioned was the scant financial resources of basic education in municipalities. Among respondents, 158 considered this to be the primary reason, and 32 respondents considered it the second most important reason for the lack of resources.

Interviews with education administrators found that weak municipal economies will pose challenges for basic education in the future. The interviewees worried that government cutbacks will affect basic education. They pointed out that the scarcity of municipal financial resources could force authorities to consider savings in basic education, the allocation of municipal resources and possible ways of reorganising special education resources. Some possibilities mentioned were decreasing the number of special groups and transferring these resources to mainstream teaching and part-time special education. However, the interviewees indicate that, despite dwindling resources, local authorities strive to make decisions to support the implementation of the three-tier support model.

Changes in Special Education Resources Caused by Reforms

Many principals did not believe that the reforms had affected the availability of special education in their school (see Figure 3). The reformed Basic Education Act was felt to

have a somewhat more positive effect on the availability of special education than the reform of the government transfers system. According to the principals, the basic education reform has improved – not decreased – the availability of special education.

Principals perceived that the amended Basic Education Act has increased special education resources and improved their use, directing them to those who truly needed them. However, the principals felt that the reform of the Basic Education Act had increased red tape, thereby decreasing the availability of special education. Among other things, those who felt that the reform of the government transfers system had impeded the availability of special education mentioned that it had decreased the number of assistants and hours and the resources for part-time special education and had altered the allocation of resources within municipalities.

In interviews, education administrators indicated that the eventual negative effects of the government transfers system reform on the transfers received by municipalities were barely visible in education or the provision of special education.

I suppose it [the reform of government transfers system] has caused a bit of a dip in the transfers the municipality can receive, but it hasn't had any kind of effect on our activity in the education administration. (Administrator 1)

However, a few interviewees did view the reform as affecting the provision of special education, though they did not see it as the only cause of changes in municipalities' provision of special education. Those who perceived that the provision of special education as decreasing in recent years felt that the decline was mainly due to other causes, such as pedagogical reasons and the increase in pupils' needs. The interviewees indicated that decision-makers might not have reflected very carefully on the use of

resources before the reforms. Now, however, means of intensified support (Tier 2) are increasingly used, and forms of support other than special support (Tier 3) are considered when allocating resources.

Discussion

The purpose of this study was to examine the provision, availability and resourcing of special education after reforms to the practical arrangements and funding for the special education system. Data were collected from the highest-ranking officials in municipal education administration and those working in schools.

The findings indicate that municipal and school practices and development activity comply with the amended Basic Education Act. For example, pedagogical expertise has a very significant role in the decision-making for support and special education. This is an important operative principle which distinguished the Finnish model from purely medical–psychological models even before the Basic Education Act reforms (Itkonen and Jahnukainen 2010; Jahnukainen 2011). In addition, prompted by the amended Basic Education Act, local authorities pay more attention to early intervention, which is one way in which an education provider can affect special education and thus also the increase of costs (Parrish and Wolman 2004).

However, small special education groups continue to be commonly regarded as pedagogically the most effective learning environment for pupils at the Tier 3 level, even though mainstream teaching groups are felt to be the most effective financially. The dilemma related to placement of pupils with SEN has also been described in previous studies (e.g. Jahnukainen 2015; Norwich 2008). This dilemma could indicate that, in

many schools, arrangements for providing support in mainstream groups are not yet at the same level as those for special groups. For example, dedicated small groups have been set up for pupils receiving intensified support (Tier 2), despite the aim to deliver Tier 2 level support in mainstream teaching groups. Thus, the existing structures of special education seem to play a role in how support is arranged, as Mahitivanichcha and Parrish (2005b), for example, have argued. Our study shows that, after the legislative reforms, some local authorities have attempted to retain the existing structures and adapt the new forms of support to them.

In the three-tier support model, part-time special education is a central form of support (Thuneberg, Vainikainen, et al. 2013). Our study indicates that, after the reform, local authorities have insufficient resources for part-time special education, in particular. The augmented transfer previously received for pupils accepted or transferred into special education has been used partly for part-time special education (for example, when a pupil is transferred to special education on less compelling grounds). Under the old system, these funds might have been one of the factors incentivising transferring pupils to special education, even in situations when pupils had mild learning difficulties, and a transfer to special education was not absolutely necessary.

After the reforms, some local authorities reallocated resources from special groups to part-time special education in order to have sufficient resources for this form of support. Thus, the reformed system might offer incentives for teaching pupils with mild disabilities in general education classrooms. However, after the funding reform the education providers continued to receive an augmented transfer for pupils in extended compulsory education. Although the proportion of pupils receiving special education in

extended compulsory education has been stable (Kirjavainen, Pulkkinen and Jahnukainen 2014b) and the share of students with severe disabilities and learning difficulties has not been affected by local governments' financial situation (Kirjavainen, Pulkkinen and Jahnukainen 2014a), this pupil weight funding might encourage segregating pupils with severe disabilities.

Although resources for part-time special education have been considered insufficient, administrators and principals did not see any significant affects from the reform of the government transfers system on the provision of special education. However, financial incentives are important in reforms of education systems, and educational reform requires funding (Fletcher-Campbell et al. 2003; Parrish and Harr-Robins 2011). Under the amended Basic Education Act, local authorities received substantial financial support channelled through a development project to facilitate the adoption of the three-tier support. Other targeted government transfers likely also had an impact on the provision of special education during the implementation of the reforms. These transfers might have somewhat offset the strain on municipal special education resources resulting from discontinuing the augmented transfer for special education and from adopting the three-tier support model.

For example, Parrish and Harr-Robins (2011) and Baker and Ramsey (2010) have noted that funding systems which do not consider variations in special education needs or costs can cause regional inequalities and increase local authorities' responsibility for financing special education (see Fletcher-Campbell et al. 2003; Hartman 2001). This trend might partly explain the weakening of municipal economies revealed by this study. This study also finds that local authorities seem to follow different practices in allocating

resources to schools. As Fletcher-Campbell et al. (2003) have stated, funding models at the local level may differ from the state funding model. Thus, local authorities' internal funding systems might also contain incentives for arranging special education in a particular way that allows a given school to maximise its access to resources.

Taken together, the results of this study indicate that, despite the goal to promote inclusion, the Finnish special education system still have barriers to participation at schools. For example, continued efforts are needed to ensure the provision of resources for part-time special education and the use of other forms of early intervention in order to support pupils in general education classrooms.

Limitations of the Study

In this study, we used data collected from a questionnaire and interviews involving professionals active in the municipal provision of education. Therefore, participants' responses likely were motivated, at least in part, by what they perceive as socially acceptable. It is difficult to overcome this obstacle, called the wall of professionalism (see Alastalo and Åkerman, 2010), so it is not surprising that the respondents reported the special education arrangements to be in line with legislation. To obtain more detailed information on the changes in special education arrangements caused by the legislative reforms, more research in individual schools is needed.

Local authorities have different traditions of arranging special education which affect the implementation of reforms and changes in practices. However, this study did not analyse variations in practices and their effects on the implementation of reforms. The scope of this research was limited to how those employed in municipal education

provision assess the implementation of the reforms. Nevertheless, the study revealed that local authorities followed different pathways in implementing the reforms, as has been shown by previous research (e.g. Pesonen et al. 2014; Thuneberg, Hautamäki, et al. 2013). More research is needed to establish the links between the factors and special education practices particular to local authorities and the implementation of reforms.

Our aim was not to investigate the effects of reforming the funding system, as have other studies based on extensive statistical data (e.g. Cullen 2003; Dhuey and Lipscomb 2011; Greene and Forster 2002; Kwak 2010). Instead, our aim was to explore the views of municipal education administrators and principals on changes in special education after the reform. Consequently, based on this study, it is impossible to assess the effects of the government transfers system and Basic Education Act reforms on the share of pupils identified as having SEN, on overall municipal economies, on basic education and on municipal arrangements for special education. Such assessments require a more detailed analysis of statistical data.

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Figure 1. Number of pupils and placement trends for pupils with SEN in 2003–2013 (Source: Statistics Finland). NB: The statistics on special education have been revised starting from the year 2011 due to reform of the Basic Education Act. The statistics in 2003–2010 are not comparable with the statistics in 2011–2013.

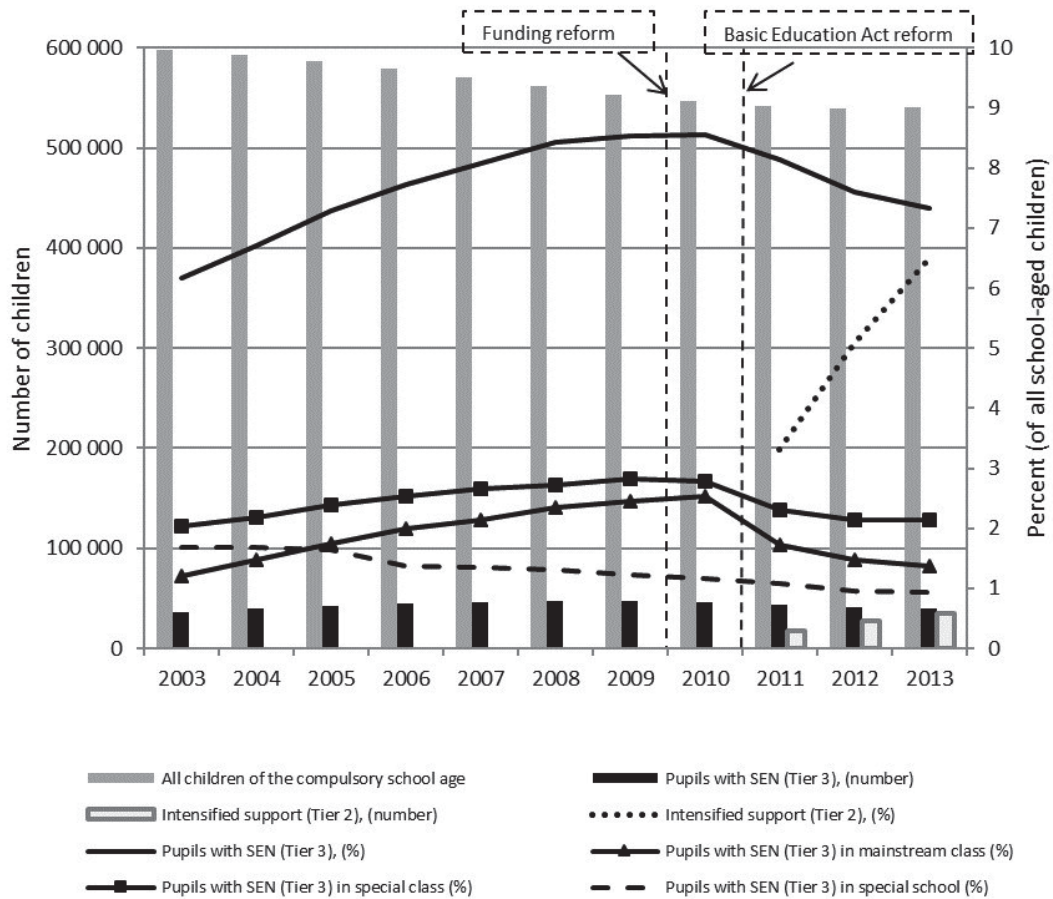


Figure 2. Principals' assessments of special education areas in most need of extra resources.

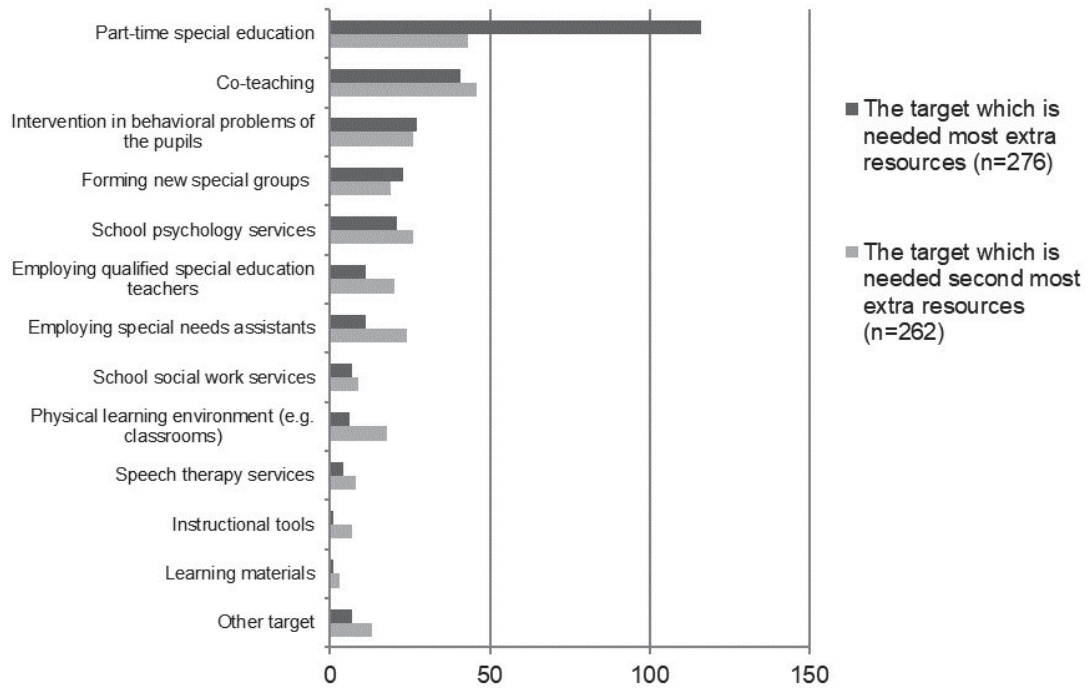


Figure 3. Principals' assessments of the effect of the government transfers system and Basic Education Act reforms on the availability of special education (N=335).

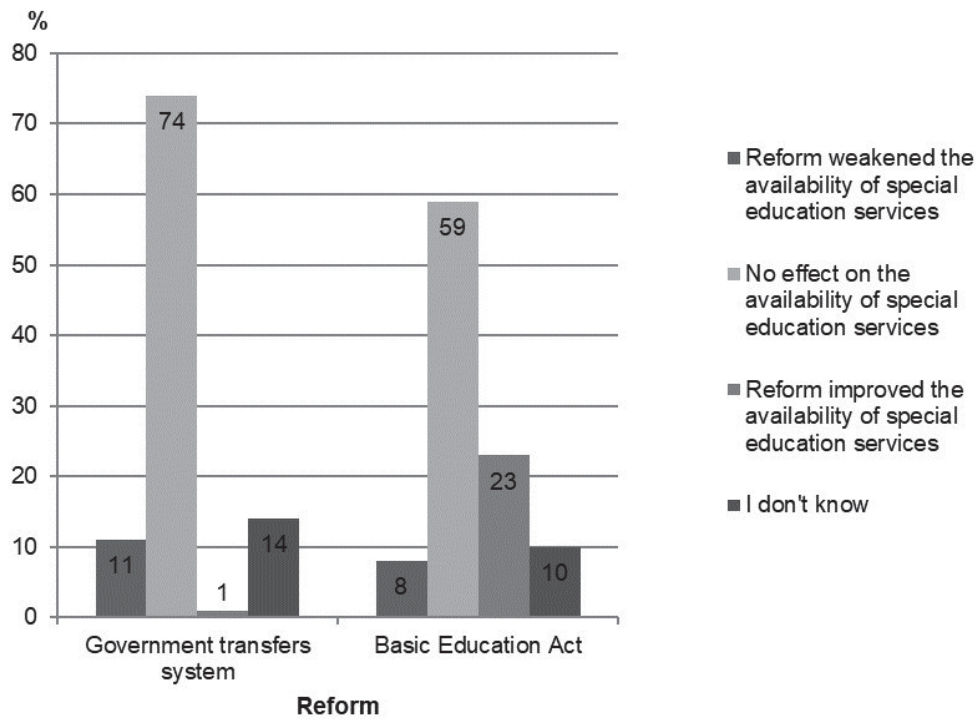


Table 1. Representatives of different professions involved in making decisions related to the three-tier support system (N=335).

	Intensified support (Tier 2)						Special support (Tier 3)					
	Pedagogical assessment for intensified support			Learning plan			Pedagogical statement for special support			Individual educational plan (IEP)		
	Always (%)	When necessary (%)	Never (%)	Always (%)	When necessary (%)	Never (%)	Always (%)	When necessary (%)	Never (%)	Always (%)	When necessary (%)	Never (%)
Homeroom teacher ¹	91	5	1	90	6	1	89	5	0	87	6	0
Special education teacher	80	17	1	77	19	0	85	9	0	85	9	0
Principal	20	71	6	15	75	5	28	64	2	24	66	4
Other teachers	15	82	1	14	80	2	17	75	1	22	70	1
Special needs assistant	7	66	23	5	69	22	5	68	20	7	65	20
School social worker	5	73	18	3	75	16	8	71	13	3	72	16
School psychologist	4	71	21	3	71	20	8	70	14	3	73	16



Principals' views on changes in the provision of support for learning and schooling in Finland after educational reform

by

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Principals' Views on Changes in the Provision of Support for Learning and Schooling in Finland after Educational Reform

Jonna Pulkkinen, Eija Räikkönen, Raija Pirttimaa and Markku Jahnukainen

Recently, the large-scale reforms of special education have been carried out in many countries. This study focuses on the latest Finnish reform of special education in compulsory education. As principals lead educational reforms in schools and their role in the implementation of the reform is significant, the study explores principals' views on the changes in support arrangements after the educational reform. We used latent class analysis to identify the subgroups of principals who share similar views. In addition, we examined the relationship between the subgroups and individual, school, and municipal level factors using multinomial logistic regression analysis. Four subgroups were identified: improved pedagogical support (19% of principals), stability of support (54%), increased administrative support (14%), and weakened support (13%). Work experience as a principal, school size, schools' resources for special education, and region differentiated these subgroups from one another. Despite nationwide reform, the support arrangements and their changes seem to differ among schools in the opinion of principals. We discuss the implications for the planning and implementation of the educational reforms.

Keywords: academic support services; compulsory education; educational change; principals; reform; special education

Introduction

In recent years, reforms of special education have been under way in many countries (e.g., Response to Intervention in the United States). These reforms have aimed to secure support for every student and to promote inclusive education. Similarly, the Finnish special education system was reformed in 2011, so that the support model now includes three tiers: general, intensified, and special support (see Finnish National Board of Education, 2014). Although there are similarities in reforms of special education among different countries, they also differ, for example in the political meaning of the models (Jahnukainen & Itkonen, 2016).

In Finland, one of the essential goals of the reform was to guarantee students' right to timely support. At the same time, however, concern was expressed over the reform's effects on the availability of sufficient support (Education and Culture Committee of the Parliament of

Finland, 2010; see also Pulkkinen & Jahnukainen, 2016). Finnish municipalities and schools have been allowed to implement the reform without strict restrictions and to take into consideration the local context when designing support for learning and schooling (Björn et al., 2016; Jahnukainen & Itkonen, 2016; Pulkkinen & Jahnukainen, 2016). This kind of autonomy can promote changes at the municipal and school level (Pijl & Frissen, 2009), but it also likely induces differences among municipalities and schools in supporting students (e.g., Pulkkinen & Jahnukainen, 2016; Thuneberg et al., 2013). Despite national regulations, the support a student receives can therefore depend on which municipality he or she lives and which school in that particular municipality he or she attends. Furthermore, the changes that the reform of the educational system will inevitably bring about are not necessarily being carried out simultaneously in different schools. For example, the local context, such as the characteristics of the district and the role of the principal in the change, affects the implementation of the reform (Fullan, 2016).

A few studies concerning the latest reform of the Finnish special education system have been published (see Ahtiainen, 2017). Some of them (Pesonen et al., 2015; Pulkkinen & Jahnukainen, 2016; Thuneberg et al., 2014) have studied the implementation of the reform in municipalities and schools whereas others (Björn et al., 2016; Jahnukainen & Itkonen, 2016) have compared the Finnish support model with Response to Intervention (RTI) in the US. So far, however, little attention has been paid to the support arrangements or their changes at the school level after the reform and to the factors related to these arrangements or changes in them. Nevertheless, there can be different factors at the individual (e.g., the principals' knowledge of the support system), school (e.g., the resources of the schools), and municipal (e.g., the size of the municipality) levels which relate to how schools arrange support for students.

Because principals are key actors of educational changes in schools (e.g. Fullan, 2016) and they are in charge of schools' resources (e.g., Jahnukainen, 2015), we chose to study their views on changes in support arrangements. As Fullan (2016) has noted, the implementation of the reform usually concerns three dimensions: materials, teaching approaches, and alteration of beliefs. Here, we focus mainly on how the Finnish special education reform has changed the materials and teaching approaches (i.e., support arrangements). The aim of this study is to explore how the principals of the comprehensive schools view changes in the provision of support arrangements after the educational reform, what kind of subgroups of principals can be identified based on the principals' views, and which factors are related to these subgroups. We identified the subgroups of principals using latent class analysis (LCA) (Vermunt & Magidson, 2002). The identification of subgroups was based on the principals' views on changes in the support arrangements. LCA enabled us to identify groups of principals who share similar views. This method can be used for the analysis of typologies (McCutcheon, 1987), which, in our study, means that we have empirically identified unobserved latent groups within a set of the observed variables of principals' views. Furthermore, we were interested in the associations among these subgroups and individual, school, and municipal level factors. In order to analyze them, we explored the relationships between group membership and individual, school, and municipal level factors using a multinomial logistic regression analysis.

Reforming Special Education

Educational change can be seen as a process that takes time (e.g., Fullan, 2016). In Finland, the latest reform of special education in compulsory education (preschool education and Grades 1–9) was put into effect in 2010–2011. In 2010, the funding of special education changed from

student weighting to being census based (Law 1704/2009; see also Pulkkinen & Jahnukainen, 2016), and in 2011, a new tiered support model came into effect (Law 642/2010). However, the reform began before legislative changes. The nationwide development project, which aimed to support municipalities and schools in implementing their three-tiered support system, was launched in 2008 (e.g., Ahtiainen, 2017), and most municipalities participated in the project between 2008 and 2012 (Ahtiainen et al., 2012).

Finland has been used as an example of a country in which the education system and educational reforms are based on professional responsibility, trust in teachers, and collaboration at the school and municipal levels (e.g., Hargreaves & Shirley, 2009; Sahlberg, 2010). This kind of trust is significant when reforming education because it can really motivate school personnel to change practices (Levin & Fullan, 2008). In addition to the Finnish case, there are also other examples, such as Ontario's special education reform in Canada (see Hargreaves & Braun, 2012), that have shown how collective professional responsibility can lead to effective educational change. Similarly, in Finland, special education was reformed in collaboration with various stakeholders at different levels of the education system (see Ahtiainen, 2017).

Ahtiainen (2017) has analyzed the key aspects of Fullan and Hargreaves's approaches to educational change, formulated *the Fullan-Hargreavesian change model*, and applied this model to the latest Finnish special education reform. The model divides educational reform into four categories: entry, objective, dissemination, and impact. According to Ahtiainen (2017), *entry* includes the justification of the reform (*why*), whereas *objective* covers the aims (*what*) and means (*how*) of the reform; *dissemination* refers to how the reform is made accessible and understandable for all stakeholders, and *impact* refers to the evaluation of progress.

As Ahtiainen (2017) has described, the *why* of the Finnish special education reform was defined in the Special Education Strategy of 2007, while the *what* and *how* were presented in the Government proposals (Government of Finland 2009a, 2009b; see also Ahtiainen, 2017). The Special Education Strategy (MoE, 2007) expressed the concern about municipal differences in special educational support and emphasized students' right to timely support. Thus, the tiered support model explicitly aimed to improve early intervention and promote inclusive education (Government of Finland 2009a; see also Ahtiainen, 2017; Jahnukainen & Itkonen, 2016; Pulkkinen & Jahnukainen, 2016), even though early intervention and inclusive education were already principles in Finnish compulsory education (i.e., prior to the reform) (e.g., Halinen & Järvinen, 2008).

Furthermore, as described, for example, by Pulkkinen and Jahnukainen (2016), the growth in the number of students in special education was one of the reasons for the aforementioned reforms. Before these reforms, the identification of students with special educational needs had increased in Finland over the years (Kirjavainen et al., 2014b), and, simultaneously, differences among municipalities in the provision of special education had become larger (Kirjavainen et al., 2014a). Consequently, the amended Basic Education Act aimed to assess and arrange support more flexibly by using early forms of support (Ahtiainen, 2017). In addition to the reform of the tiered support system, the funding reform was a means to reduce the number of students in special education (Government of Finland 2009b; see also Pulkkinen & Jahnukainen, 2016).

According to Fullan (2016), the implementation of the reform is influenced by factors that can be organized into three categories: characteristics of the change (need, clarity, complexity, and quality), local context (district and school level factors), and external factors (government and other agencies). In this study, we focus mainly on factors that are related to local context. As

Fullan (2016) has stated, districts—so in Finland, municipalities, usually—can develop both capacity and incapacity for change. Studies of the latest Finnish educational reform have shown that there are differences among municipalities and among schools in how they have implemented the three-tier support model (e.g., Pulkkinen & Jahnukainen, 2016; Thuneberg et al., 2014).

Thuneberg et al. (2014) have studied the reform process related to the three-tiered Finnish model by analyzing municipal documents. According to their study, there were differences among municipalities in adopting the new concepts of the tiered model. Some municipalities used concepts that were compatible with the tiered model (e.g., flexible grouping, co-teaching, and differentiated teaching). Other municipalities, instead, had not adopted the new concepts at all. These included small municipalities and municipalities in which school personnel viewed their prevailing special education system as well-functioning and saw that there was no need to reform it (Thuneberg et al., 2014).

In part, municipal differences can be caused by municipalities' differing financial situations, which, according to Kirjavainen et al. (2014a), have had an effect on special support in Finnish municipalities. According to a study by Pulkkinen and Jahnukainen (2016), local authorities in Finland have made an effort to re-allocate resources for special education differently and more effectively after the reform, but there remain differences among municipalities in how they allocate resources for education. As Levin and Fullan (2008) have stated, effective educational changes demand effective use of resources. Resource allocation or re-allocation is, thus, a way in which district-level leaders can support or alternatively hinder the implementation of the reform (O'Connor & Freeman, 2012).

At the school level, the role of principals and teachers in the implementation of the reform is significant (Fullan, 2016). For instance, the various experiences of school personnel can partly explain differences in the implementation of the reform among schools. Both negative and positive experiences from earlier implementations of policy reforms can transfer to later reforms (Fullan, 2016; Pesonen et al., 2015). Furthermore, as Pesonen et al. (2015, p. 174) have stated “varied educational arrangements are due to the way the implementers interpret a policy and make sense of it based on their experiences, values, and professional norms”.

As mentioned (above), in the Finnish education system, teachers and schools have significant responsibility for educational reforms (Sahlberg, 2010). Thus, it is obvious that teachers have had key roles in the implementation of the tiered support model in the country. Donnell and Gettinger (2015) have found that teachers are more likely accept a reform if there is congruence among teachers’ pedagogical beliefs and the reform. Moreover, they have stated that, in order to have a more positive attitude towards the reform, teachers should have sufficient professional learning opportunities that support them in implementing the reform. Therefore, principals as pedagogical leaders in schools have many chances to affect the reform and they are essential actors in the reform.

The principals can ensure that the use of resources and the organizational culture of the school support implementation of the reform. For example, Castro-Villarreal et al. (2014) found that there should be better communication between the administration and teachers in order to improve the RTI process. Bays and Crockett (2007), instead, have investigated instructional leadership of special education. According to their study, there are some systemic and personal factors which influence instructional leadership. For example, time allotment may be more complicated in larger schools, which in turn affects leadership. Moreover, principals’

understanding of special education also influences how they lead instructional practices (Bays & Crockett, 2007). Consequently, in this study, we examine how the principals view the changes in support arrangements after educational reform and if there is a relationship between their views and individual, school, and municipal level factors.

The Finnish Model of Support for Learning and Schooling

The current Finnish support model (i.e., Learning and Schooling Support) consists of three tiers. The National Core Curriculum for Basic Education guides municipalities and schools in educational arrangements and instructions (Halinen & Järvinen, 2008). When reforming the Basic Education Act, the Amendments and Additions to the National Core Curriculum for Basic Education were also released (Finnish National Board of Education, 2010). Although the National Core Curriculum has been renewed again in 2014, the regulations for three-tiered educational support are as before.

According to the National Core Curriculum for Basic Education (Finnish National Board of Education, 2014), general support (Tier 1) is aimed at all students who occasionally need some kind of support (e.g., remedial teaching). When general support is insufficient and a student needs support more regularly, a decision to provide intensified support (Tier 2) is made. This decision is based on pedagogical assessment, and support follows a learning plan. If intensified support, too, is insufficient, a student is entitled to special support (Tier 3). The need for special support has to be assessed and a pedagogical statement has to be made. An individual education plan (IEP) drafted for the student defines the special support arrangements for the student.

There are some arrangements for educational support, mentioned in the National Core Curriculum, which can be included in all three tiers of support. These are co-teaching, flexible

grouping, remedial teaching, learning plan, part-time special education, special needs assistants, cooperation with families, student welfare team, and differentiation. In this study, we concentrate on the changes in these arrangements. As Fullan (2016) has noted, the implementation of educational change includes at least three dimensions: new or revised materials, new teaching approaches, and alteration of beliefs. The aforementioned arrangements are particularly related to the materials and teaching approaches, even though the use of some of these also requires alteration in teachers' beliefs.

Co-teaching, flexible grouping and differentiation can all be seen as instructional practices in classrooms, and they mostly relate to teachers' work. There is also a relationship among these three so that flexible grouping and differentiation may become easier when teachers are working together (e.g., Friend et al., 2010; Murawski & Hughes, 2009; Rytivaara, 2011). Co-teaching, along with flexible grouping and differentiation, was an essential part of the nationwide initiative funded by the National Board of Education that aimed to support municipalities in developing new practices (Ahtiainen et al., 2012).

According to a study by Ekstam et al. (2016), in which they investigated support practices in Swedish-speaking schools in Finland, flexible grouping and differentiation are a more common form of support than co-teaching. Similarly, other studies (e.g., Saloviita, 2018; Saloviita & Takala, 2010; Takala & Uusitalo-Malmivaara, 2012) have demonstrated that co-teaching is rare, especially among classroom teachers and subject teachers in Finnish-speaking schools as well. This may be partly due to a lack of time for planning the lessons together (Takala et al., 2009).

Because co-teaching requires administrative support, for example in facilitating teachers' common planning time (Scruggs et al., 2007), the role of principals in supporting teachers'

collaboration is essential. Co-teaching is usually seen as collaboration between a general education teacher and a special education teacher (Friend et al., 2010), but in Finland, classroom teachers seem to co-teach more often with other classroom teachers than with special education teachers (Saloviita & Takala, 2010; Takala & Uusitalo-Malmivaara, 2012). However, Pesonen et al. (2015) have argued that collaboration between special education teachers and classroom teachers improved along with the reform. On the other hand, Ekstam et al. (2016) found that special education teachers and mathematics teachers reported hardly any changes in collaboration or in other educational practices after the implementation of the tiered support model.

In addition to co-teaching, the tiered support model also calls for collaboration between school personnel and other professionals and parents (Murawski & Hughes, 2009). In Finland, the National Core Curriculum has required schools, even before the reform, to cooperate with families and municipal social and health authorities (Halinen & Järvinen, 2008), but in the tiered model, this requirement is more evident. As Thuneberg et al. (2013) have stated, in the tiered support model, multi-professional student welfare work is a significant part of support in all three tiers, and it should be seen as a preventive and school-level early intervention. In addition, when the need for intensified or special support is assessed, the role of multiprofessional collaboration as well as collaboration with families is essential. In Finland, according to Vainikainen et al. (2015), school size and geographical area, for example, affect multiprofessional collaboration (e.g., the frequency of meetings and the availability of the services).

If co-teaching, flexible grouping and differentiation are essential parts of quality pedagogical practices in the classroom, remedial teaching, part-time special education and

special needs assistants are, above all, arrangements for additional support services. In addition, they are arrangements for which statistics are also compiled by Statistics Finland. For example, in 2012, 57% of the students received remedial teaching, 74% part-time special education, and 45% special needs assistance or interpretation services in Tier 2 (Official Statistics of Finland, 2013). By contrast, in Tier 3, 34% received remedial teaching, 38% part-time special education, and 55% special needs assistance or interpretation services.

Of these arrangements, part-time special education has a unique and significant role in the three-tiered support model, because it enables students to be flexibly supported by special education teachers in mainstream teaching groups at all three levels. As Graham and Jahnukainen (2011) have stated, part-time special education has been an exceptional arrangement in the Finnish support system over the decades. It has guaranteed that a student receives additional support in a flexible and timely manner without need for diagnosis (Jahnukainen, 2011). However, according to Pulkkinen and Jahnukainen (2016), resources for part-time special education have been, in the opinion of local authorities, insufficient after the latest reform of special education.

The learning plan is a document that structures the planning and providing of support. As mentioned before, in Tier 2, a learning plan defines arrangements for intensified support, whereas an IEP has to be drafted for students in Tier 3. Furthermore, the National Core Curriculum has mentioned that a learning plan can be drafted for students in Tier 1 even if it is not obligatory. The learning plan is not a new tool for support arrangements. Before the reform, too, all students receiving special support (Tier 3) had an IEP. However, in the tiered support model, the learning plan is required to be drafted for all students in Tier 2 as well. Hence, documentation became a part of all teachers' work in three-tiered model (Thuneberg et al.,

2013). According to Pesonen et al. (2015), there are some signs that the learning plan in the tiered support model has improved the provision of support. However, studies have also shown that the increased documentation and paperwork are seen as a burdensome job in the tiered support model (Castro-Villarreal et al., 2014; Ekstam et al., 2016; Pesonen et al., 2015; Pulkkinen & Jahnukainen, 2016).

Purpose of the Current Study

In this study, we focus on the aforementioned arrangements for support and principals' views on changes in them after the educational reform. We chose to study principals' views, for they lead educational reforms in schools. We examine whether there are groups of principals that share similar views on the changes in support arrangements and if some individual, school, and municipal level background factors differentiate these groups of principals from one another.

The research questions of the present study are:

- 1) How do principals view the changes in support arrangements?
- 2) Are there subgroups of principals based on their views on changes in support arrangements?
- 3) How do individual, school, and municipal level factors differentiate the subgroups from one another?

Methods

Data

The participants for this study consisted of principals in Finnish-speaking municipal comprehensive schools. According to Official Statistics of Finland (2012b), in 2012 there were 2

349 of these schools (87% of all Finnish schools). The special education schools, Swedish-speaking and English-speaking schools or private and state schools were not included in the study. Lists of principals' contact details were acquired from regional state administrative agencies. These lists included all Finnish-speaking schools' principals. Using systematic random sampling, every fourth principal (altogether 600 principals) was selected for this study from the contact detail lists.

The electronic questionnaire was sent to the principals in the autumn of 2012. The questionnaire was re-sent by mail to those participants who did not respond to the electronic questionnaire. Altogether, 348 principals answered the questionnaire. Of these, 12 (3.4% of the available principals) had answered only background questions and one principal reported as being a special school's principal, and thus they were excluded from the sample of this study. After this, the final sample consisted of 335 principals (response rate 56%). For dependent variables, the proportion of missing values ranged from 1% to 13.3%. Cases with missing values for all dependent variables ($n = 20$) were not included in the analysis. Hence, the final data used in this study consist of 315 principals (52.5% of the initial sample).

The questionnaire included questions about background of the principals, schools' special education resources, and forms and arrangements of the support for students' education. In the accompanying letter, the principals were informed that register data providing information on municipal variables can be added to the dataset. In this article, only background variables and the variables concerning support arrangements for students' education are analyzed. The results related to the resources and organization of support have been published elsewhere (Pulkkinen & Jahnukainen, 2015, 2016).

Table 1 shows information on the background variables of the principals. The work experience as a principal ranged from 0 to 36 years, with a mean of 11.1 years ($SD = 8.0$), and 34.6% had work experience in special education, too. Most of the principals (91.7%) had participated in training concerning tiered support, and 83.8% reported that his or her school had participated in the initiative related to the reform of the tiered system. Two thirds of the principals worked in primary school (Grades 1–6). Less than half of the principals (48.6%) worked in small schools (fewer than 200 students), and most of the principals (78.1%) reported that their school's resources for special education are insufficient. The largest proportion of principals (28.3%) was from Western and Inland Finland and the smallest proportion of them (8.9%) was from the metropolitan area. Most (37.5%) worked in a municipality in which the population ranged from 10 000 to 50 000. By comparing respondents' schools to statistics on all Finnish comprehensive schools, we found that the respondents were relatively representative of the schools and various regions of Finland.

Variables

The principals were asked to rate different arrangements of support mentioned in the National Core Curriculum for Basic Education as arrangements for supporting students' learning and schooling by stating a question "How is, in your opinion, the condition of the following support arrangements in your school?". The arrangements principals had to assess were as follows: (1) classroom teachers or subject teachers are co-teaching together, (2) a special education teacher is co-teaching with a classroom teacher or a subject teacher, (3) teaching groups vary flexibly, (4) remedial teaching is arranged for students, (5) a learning plan is drafted for a student, (6) students are receiving part-time special education, (7) special needs assistants are supporting

students, (8) cooperating with families in order to support students, (9) the student welfare team are seeking solutions on how to support students, and (10) teachers are differentiating their instruction.

The principals rated each arrangement on a scale of 0–4, where 0 = Does not exist in our school, 1 = Poor, 2 = Average, 3 = Good, and 4 = Very good. This variable was recoded into a four-level classification by combining categories 0 and 1, that is, if some arrangement does not exist in the school it was interpreted as being poor. According to the National Core Curriculum, each of aforementioned 10 arrangements can be used as a means of all tiers of support. Thus, it can be assumed that all of them should be used in every school and the lack of them can be interpreted as a poor condition. The principals were asked to rate the condition of the support arrangements. They were not asked how often each support arrangements are used in their school or how effective they consider them in supporting learning but rather the availability of these arrangements.

The principals assessed the conditions of the support arrangements in the autumn of 2012. They had to assess how the arrangements had been before 2011 (i.e., before the changes in legislation) and how they were at the moment (i.e., after the legislative changes in the autumn of 2012 when the principals responded to the questionnaire). We created the new variables of *change* from each of the ten rated arrangements separately by subtracting *before the changes in legislation* assessments from *after the changes in legislation* assessments. These variables were recoded into three categories: 1 = negative change, 2 = no change, and 3 = positive change.

The principals' assessment of the arrangements for support can be related to individual, school or municipal level variables. In this article, the following variables were explored: (1) individual level: work experience as a principal (years), work experience in special education (1

= yes, 0 = no), and participation in training concerning support for learning and schooling (1 = yes, 0 = no); (2) school level: school size (1 = amount of students less than 200, and 0 = amount of students at least 200), grade (Grades 1–6, Grades 1–9, and Grades 7–9), participating in the initiative Action to Develop Intensified and Special Support (1 = yes, 0 = no), and the principal's assessment of the school's resources for special education (1 = more resources are needed, 0 = more resources are not needed), and (3) municipal level: population of the municipal (less than 10 000, at least 10 000 but less than 50 000, and at least 50 000) and geographical regions of Finland.

The division into regions was based on official regional classification. In this classification, Finland has been divided into six regions: Southern, South-Western, Eastern, Western and Inland, Northern Finland and Lapland. This is also how regional state administrative agencies have been divided into regions. In this study, the metropolitan area was separated from Southern Finland into its own group and Northern Finland and Lapland were merged. Population information was obtained from the website of Statistics Finland (Official Statistics of Finland, 2012a).

Analysis

First, principals' views on changes were examined using descriptive statistics. Second, subgroups of principals based on the similarity of their views on the changes in support arrangements were identified using latent class analysis (LCA). LCA is a statistical clustering method that enables the examination of latent structures (i.e., the identification of subgroups) among a set of categorical variables (Vermunt & Magidson, 2002). In this study, the aforementioned 10 change variables of support arrangements were used to identify groups of principals. Each of the principals belonged to one of a set of K latent groups, and principals who

belonged to the same group were similar with respect to their views on changes in support arrangements (see Vermunt & Magidson, 2002).

LCA models with one to seven groups were compared for finding the model that best fits the data. Three different criteria were used to decide the best number of subgroups. First, practical usefulness (i.e., the number of principals in each group) and theoretical interpretativeness of the solution were considered. Second, goodness-of-fit of the competing models with varying number of subgroups were evaluated based on Bayesian information criterion (BIC; Schwartz, 1978), sample-size adjusted BIC (aBIC; Yang, 2006), Lo-Mendell-Rubin adjusted LRT test (LMR; Lo, Mendell & Rubin, 2001), and parametric bootstrapped likelihood test (BLRT; Nylund et al., 2007).

The model with the lowest information criterion value usually fits the data best. For LMR and BLRT, p values over 0.05 indicate a good fit of the current LCA model (i.e., current number of groups is sufficient) whereas p values below 0.05 indicate that number of groups should be increased by one (Nylund et al., 2007). Several different fit indices should be considered as it has been shown that they do not work well in all situations. Morgan (2014) has shown that BIC tends to underestimate the number of groups and aBIC seems to perform slightly better than BIC does when the sample size is small and there are rare groups. The LMR, in turn, tends to overestimate the number of groups whereas the BLRT usually performs better than the LMR (Nylund et al., 2007).

The third criterion for optimal number of groups was the quality of the identified grouping that can be evaluated based on entropy and average latent class posterior probabilities (AvePP). The entropy illustrates the accuracy of the overall grouping whereas AvePP evaluates how probably a principal ends up in a particular group. Entropy and AvePP values range from 0 to 1,

with values close to 1 indicating a distinct grouping (Celeux & Soromenho, 1996). An AvePP greater than 0.7 for all groups is recommended (Nagin, 2005).

After selecting the best number of groups, we explored the relationship between group membership and individual, school, and municipal level factors with multinomial logistic regression analysis using the automatic three-step method (Asparouhov & Muthén, 2014). Using this method, the most likely latent group variable obtained from the LCA is regressed on predictor variables while taking into account the measurement error related to the grouping of principals into the latent groups. The predictor variables were treated as auxiliary variables, which means that they did not affect the identification of the final LCA grouping.

The multinomial logistic regression analysis was performed separately for individual, school, and municipal level factors. The results of these analyses are reported in terms of odds ratios (OR) and 95% confidence intervals (CI). An odds ratio represents a change in the odds of being in a group j (versus being in the reference group), when the value of a particular background factor increases by one unit. An odds ratio greater than one indicates that principals for whom the value of the background factor (e.g., work experience) is one unit higher are more likely in group j than those principals for whom the value of the background factor is one unit lower.

All analyses were conducted using the Mplus statistical package (Version 7.4; Muthén & Muthén, 1998-2015). The estimator of maximum likelihood with robust standard errors was used. Because the missing data were considered to be missing at random (MAR), full information maximum likelihood procedure was applied in this study, which means that all available data were utilized in the analyses without imputing the missing values.

Results

Descriptive statistics in Table 2 illustrate that more than half of the principals assessed the changes in legislation as bringing about positive change in drafting learning plans for students. Most of the principals (range 54%–78%) viewed that other support arrangements have not changed after the legislative changes. Part-time special education was the arrangement, which was seen to change the most negatively. Approximately a quarter (26%) of the principals assessed this arrangement as being weaker after the legislative changes.

Table 3 presents fit indices and group proportions for one- to seven-group LCA models. Fit statistics showed that the three- and four-group models received support, but the support was not consistent from all of the indices. The values for BIC and the LMR supported the three-group solution, whereas the aBIC value and the BLRT supported the four-group solution. In addition, the indicators of grouping quality were somewhat inconsistent, since entropy supported the four-group solution and AvePP the three-group solution. Based on the model fit indices, statistical tests, and clarity of the latent groups, the four-group model was chosen as the final one. This solution was also clearer to interpret.

Figure 1 provides a graphical presentation of conditional probabilities for positive change in the four groups and Table 4 presents conditional probabilities for categories of change among the four latent groups. For the largest group (Group 2, 54% of principals), “no change” was the most probable option for all but one of the support arrangements. This group was labeled as *stability of support*. The only arrangement the principals in this group assessed as being better after the legislative changes was drafting a learning plan for a student.

The next largest group (Group 1, 19% of principals) was labeled as *improved pedagogical support*. The principals in this group viewed that the forms of support concerning pedagogical

arrangements (co-teaching between a special education teacher and a classroom teacher or a subject teacher, flexible grouping, drafting a learning plan for a student, student welfare team are seeking solutions to support students, and differentiation) are better after the legislative changes. It seems that this group prefers pedagogical aspects of the reform and views that the positive change after the changes in legislation has been the way to support students more flexibly and individually.

Group 3 (called *increased administrative support*) included 14% of the principals. According to this group, the only positive change concerns the learning plan, which has been mentioned in the Basic Education Act and the National Core Curriculum after the changes in legislation. Instead, the principals in this group saw that part-time special education and cooperation with families have changed negatively.

Group 4 (13% of principals) was named as *weakened support*. Principals in this group viewed either negative changes or no changes in arrangements of support after the changes in legislation (see Table 4). Most negative changes, according to this group, have occurred in the following arrangements: part-time special education, special needs assistants, cooperation with families, student welfare team, and differentiation. Most of these are arrangements, which also require additional resources or use of teachers' time to cooperate instead of teaching.

The results of multinomial logistic regression analysis indicated that the only statistically significant predictive individual level factor was work experience as a principal (see Table 5). Compared to the improved pedagogical support group, the principals in the stability of support group are those who have more work experience as a principal ($OR = 1.07$, 95% CI [1.01, 1.13]).

Of the school level factors, school size and principals' assessment of the school's resources for special education were related to group membership. Again, compared to the improved

pedagogical support group, the stability of support group was more likely to include those principals who worked in small schools ($OR = 2.72$, 95% CI [1.02, 7.29]). Compared to the principals in the weakened support group, the principals in the improved pedagogical support group were less likely to work in small schools ($OR = 0.14$, 95% CI [0.04, 0.53]) and less likely to want more resources for special education ($OR = 0.19$, 95% CI [0.04, 0.98]).

Of the municipal level factors, region was related to group membership so that, compared to the principals in the improved pedagogical support group, the principals in the stability of support group were more likely to be from Northern Finland ($OR = 12.37$, 95% CI [1.32, 116.20]) than from the metropolitan area. There was no relationship between group membership and the population of the municipality.

Discussion

Principals are key actors in educational reforms because they lead changes in schools. In this study, we examined principals' views on the changes in support arrangements after the latest Finnish reform of special education. The purpose was to group the principals on the basis of how they viewed changes in the arrangements for tiered support. In addition, we were interested in whether individual, school, and municipal level factors were related to membership in a particular subgroup. The study showed that principals viewed the changes in arrangements in different ways and that based on those views, four subgroups could be identified according to principals' views, namely, of *improved pedagogical support*, *stability of support*, *increased administrative support*, or *weakened support*.

The Finnish reform of special education can be regarded as having begun in 2008, after the launch of the Special Education Strategy (see Ahtiainen, 2017), even though the changes in

legislation and the tiered support model were not implemented until 2011. Therefore, it is not surprising that more than half of the principals were included in Group 2 (stability of support), who saw all arrangements, except drafting a learning plan, as having remained unchanged after the legislative changes. This is probably due to the fact that, in the new legislation, there has been a clear injunction to draft a learning plan for all students in Tier 2 and Tier 3. For other arrangements, the new regulations are not as explicit as they are for the learning plan.

According to Fullan (2016), the implementation of the reform concerns at least three dimensions: materials, teaching approaches, and alteration of beliefs. The principals associated with Group 1 (improved pedagogical support), which was the second biggest group, saw many positive changes in support arrangements. In particular, the positive changes, in the opinion of this group, seemed to concentrate on those arrangements related to pedagogy and the planning of support. On the other hand, this group's views on changes in the so-called additional support arrangements (i.e., remedial teaching, part-time special education, and special needs assistants) were not as positive as they were on the changes in pedagogical arrangements. This could suggest that, in these schools, the implementation of the reform has been more successful in respect of new teaching approaches than in materials.

The smallest groups were Group 3 (increased administrative support) and Group 4 (weakened support). Principals in these groups saw negative changes in part-time special education and in cooperation with families. The reform has increased obligations related to special education teachers' work in part-time special education (Pulkkinen & Jahnukainen, 2016) and cooperation with families, which may be reflected by the assessments of principals in these groups. Previous studies (Castro-Villarreal et al., 2014; Ekstam et al., 2016; Pesonen et al., 2015; Pulkkinen & Jahnukainen, 2016) have demonstrated that the three-tiered support model has

increased documentation and paper work. This may reduce the time that special education teachers have for instruction, and therefore principals could be critical of the changes in the aforementioned arrangements. However, compared to the principals in Group 4 (weakened support), the principals in Group 3 (the increased administrative support) saw that there was a positive change related to the learning plans. It could be that when compared to Group 4 (weakened support), Group 3 (increased administrative support) views a learning plan not only as bureaucracy but also as a pedagogical tool, thus viewing changes in this arrangement more positively.

The implementation of the reform has been influenced, for example, by factors related to local context, such as district characteristics and the role of principals and teachers (Fullan, 2016). Our results indicated that principals' work experience was related to the subgroups of principals. The principals in Group 2 (stability of support) had more work experience as a principal than the principals in Group 1 (improved pedagogical support) did. It might be that they have a longer perspective on the reform of special education, and therefore, they may view more clearly that the changes in the support system have been under way even before 2011, the year when the amendments to the law came into effect.

Pedagogical arrangements were an essential part of the nationwide initiative, which aimed to support municipalities in developing new practices for tiered support (Ahtiainen et al., 2012). Therefore, it could have been expected that those principals who have participated in training related to the tiered system or whose school has participated in the nationwide reform initiative would include in Group 1 (improved pedagogical support). Our results, however, do not support this. This may be due to the fact that most of the principals and schools had participated in

training or in the initiative, thus principals did not differ much from one another in respect to these variables.

Of the school and district level factors, school size, school resources for special education, and region were related to the subgroups of principals. Compared to Group 1 (improved pedagogical support) there were more of the principals in Group 2 (stability of support) in small schools, and they worked more often in municipalities in Northern Finland than in metropolitan area. In this study, we examined the relationship between school level and municipal level factors separately. In our data, 53% of Northern Finland's schools were small schools, whereas only 21% of the metropolitan area's school were small schools. Because there were more small schools in Northern Finland than in the metropolitan area, the difference between these two regions could be partly explained by the larger proportion of the small schools in Northern Finland.

Thuneberg et al. (2014) have shown that small municipalities, where small schools are most typically located (47% of small schools in our data were in municipalities with less than 10 000 residents), have slowly adopted concepts of the three-tiered model. Hence, this fact might explain why principals in small schools were included more often in Group 2 (stability of support), even though the size of the municipality was found not to be directly related to subgroups when analyzing the relationship between municipal level factors and group membership. On the other hand, pedagogical arrangements could be, to start with, more flexible in small schools, as Kalaoja and Pietarinen (2009) have suggested.

There is more personnel in large schools, which may enable more variability in pedagogical support. For example, Vainikainen et al. (2015) have indicated that school size affects multiprofessional collaboration so that meetings of the student welfare team are less

regular in small schools, especially in less urban areas of Finland. Moreover, some pedagogical arrangements, such as co-teaching or flexible grouping, may be difficult to put into practice in small schools where there are only a few teachers and perhaps no special education teachers at all. On the other hand, the principals in Group 4 (weakened support) had often assessed most of the arrangements to be good or very good before the reform. Although they viewed the negative changes in the arrangements, most of them did not view them as being poor. Hence, it seems that it is not the tiered support that Group 4 are criticizing but the current resources for schools to arrange such support. More research, however, is needed to better understand the relationship between schools' resources and principals' views on changes.

This study has some limitations. First, the data were gathered in 2012, over a year after the changes in legislation came into effect. Thus, the principals have responded retrospectively to the questions concerning support arrangements before the legislative changes. It is probable that this has an effect on principals' views. Although our purpose was not to study the quality of support arrangements before or after the legislative changes but the perceived changes in support arrangements, it is obvious that views on how arrangements were before the changes in legislation have an effect on how they have been viewed after the changes in legislation. On the other hand, when assessing at the same time how arrangements were before and after the legislative changes, the principals may assess, if unintentionally, the changes in these arrangements, too. This can be an advantage for our study because our purpose was, primarily, to examine principals' views on changes in support arrangements.

Second, in this study principals were asked to assess the condition of the support arrangements on a scale of ranging from poor to very good. They were not asked how frequently these arrangements are used in their school or how effective they see them to be in supporting

students' learning and schooling. Hence, the changes can only be interpreted as principals' subjective opinion concerning the condition of the support, not the objective reporting of frequency or effectiveness of the support arrangements.

Third, missing values on dependent variables seemed to be related to the principals' assessment of a school's resources for special education. Therefore, the results of the association between a school's resource and the groups of principals should be interpreted with caution. In addition, variables such as the number of teachers and special education teachers per student or the average class size of a school could be better for measuring a school's resources. Yet, these issues were not asked about in our questionnaire.

Fourth, it should be remembered that LCA explores the response pattern of principals. Thus, the meaning of latent groups or their labels are primarily researchers' interpretation of this pattern. LCA, however, provides a method to group principals based on their views on changes in different arrangements, and therefore, differences in views can be analyzed.

Conclusions

Recent large-scale reforms of special education, both in Finland and elsewhere, have aimed to secure timely and sufficient support for every student. As Ahtiainen (2017) has described, the *what* (aims) and *how* (means) of the Finnish reform relate to a student's right to early support and to the re-organization of the support system so that support can be arranged flexibly. This study concentrated especially on the *how* of the reform. It showed that after the latest Finnish reform of special education the changes in the support arrangements have not been, in the opinion of principals, only positive in the schools. Although the aim of the Finnish reform was to secure all students the support they need, it seems that some arrangements, especially those

calling for additional resources, have changed negatively in some schools. Since resources and their allocation are essential in the implementation of the reform (e.g., Levin & Fullan, 2008; O'Connor & Freeman, 2012), they should also be taken into consideration early on when planning the *how* of the reform.

Despite nationwide regulations, the support arrangements and their changing after the educational reform can differ a lot among schools, as our study has shown. It seems that schools arrange the support regulated in the National Core Curriculum in their own way depending on the ability of each school or municipality. This result supports the findings of previous studies (e.g., Thuneberg et al., 2014; Vainikainen et al., 2015). The flexibility in the implementation of educational reform can be seen as a good thing, as local context varies (see e.g., Hargreaves & Braun, 2012). Hence, the differences in support arrangements can be acceptable if all students receive sufficient support and this support is efficient enough regardless of how this support has been arranged. Yet, if differences in the support arrangements among schools affect students' learning, more regulations of the support are needed in order to guarantee all students equal opportunities in education. This study did not measure if there are differences among schools in the efficiency of support. Therefore, further studies regarding the impact of the differences in support arrangements would be worthwhile. However, our study suggests the need, when planning and implementing large-scale educational reforms, to take into account the differences among schools and the variety in their practices, resources and abilities for reform.

Fullan (2016) has stated that effective principals are “lead learners” who participate as a learner with teachers and, in addition, collaborate at the district level. Thus, the role of principals regarding the implementation of educational reforms is significant. Because Finnish schools have great autonomy in educational reforms (Sahlberg, 2010), the role of principals and their views on

the reform, as well as the schools' educational practices, are even more significant. When principals allocate resources in schools, they should not view the educational reform from an administrative perspective only but also from a pedagogical perspective, so that the use of resources supports the pedagogical aims of the reform. Thus, it should be ensured that principals and other administrative personnel receive, for example, in-service training so that they are informed enough of the pedagogical aspects of the reform. However, as Fullan (2016) has noted, principals usually have little preparation for educational reforms and their leading.

In this study, we were unable to examine how principals' earlier experiences of reforms might have affected their views. As, for example, Fullan (2016) and Pesonen et al. (2015) have suggested, both negative and positive experiences from earlier reforms can transfer to later reforms. Further research on this question would be worthwhile. Similarly, more information on how each of the support arrangements has been implemented in schools following the Finnish special education reform would be useful, as well as on the alteration of beliefs, which is one dimension in implementing educational change (see Fullan, 2016). Since our data were gathered in 2012 and educational changes take time, a renewed data collection that, in addition to support arrangements, focuses on the aforementioned questions and how well the aims (*what*) of the Finnish reform have been achieved would be of great help.

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Figure 1. Conditional Probabilities of Positive Change in the Four Groups.

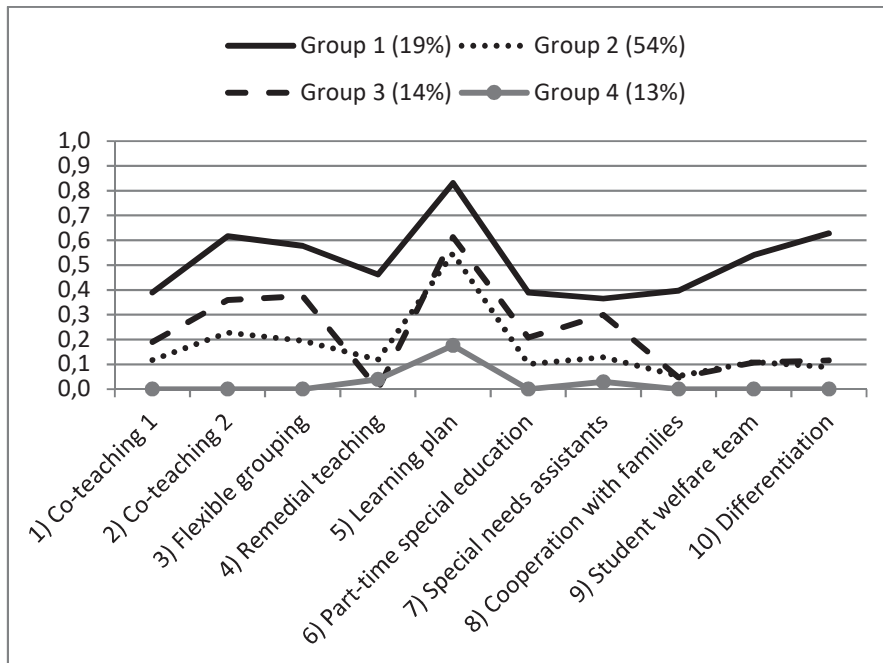


Table 1. Descriptive Statistics for Background Variables ($N = 315$)

Variable	M (SD)	%
Work experience as a principal (years; range 0-36 years)	11.1 (8.0)	
Work experience in special education		
No		64.8
Yes		34.6
Missing		0.6
Participation in training concerning support for learning and schooling		
No		7.6
Yes		91.7
Missing		0.6
School size		
Amount of students at least 200		51.4
Amount of students less than 200		48.6
Grade		
Grades 1–6		64.4
Grades 1–9		20.6
Grades 7–9		14.9
Participating in the initiative Action to Develop Intensified and Special Support		
No		15.2
Yes		83.8
Missing		1.0
Principal's assessment of the school's resources for special education		
More resources are not needed		21.9
More resources are needed		78.1
Region		
Metropolitan area		8.9
Southern		21.9
South-Western		12.4
Eastern		11.4
Western and Inland		28.3
Northern		17.1
Population		
50 000–		29.2
10 000–49 999		37.5
0–9 999		33.3

Table 2. Principals' Assessments of the Changes in the Support Arrangements

	Before Year 2011		Year 2012		Change %
	Poor %	Very Good %	Poor %	Very Good %	
Co-teaching 1 ^a	68.9	4.1	57.8	3.2	
Negative change					3.8
No change					78.4
Positive change					16.8
Missing					1.0
Co-teaching 2 ^b	49.5	5.4	35.9	5.4	
Negative change					8.3
No change					60.6
Positive change					29.5
Missing					1.6
Flexible grouping	33.0	10.2	22.5	12.1	
Negative change					13.3
No change					56.2
Positive change					27.0
Missing					3.5
Remedial teaching	4.4	21.9	3.2	21.6	
Negative change					19.4
No change					58.4
Positive change					15.2
Missing					7.0
Learning plan	29.2	8.3	3.5	24.8	
Negative change					4.4
No change					37.1
Positive change					54.9
Missing					3.5
Part-time special education	4.8	20.3	5.4	13.0	
Negative change					25.7
No change					53.7
Positive change					15.6
Missing					5.1
Special needs assistants	9.8	16.2	10.8	21.6	
Negative change					15.9
No change					59.4
Positive change					18.1
Missing					6.7
Cooperation with families	2.2	29.8	0.3	25.7	
Negative change					17.1
No change					64.4
Positive change					10.8
Missing					7.6

Student welfare team	5.4	27.9	2.2	31.1	
Negative change					14.6
No change					59.0
Positive change					16.8
Missing					9.5
Differentiation	11.4	13.3	3.8	12.7	
Negative change					13.3
No change					61.9
Positive change					18.1
Missing					6.7

Note. ^aClassroom teachers or subjects teachers are co-teaching together. ^bA special education teacher is co-teaching with a classroom teacher or a subject teacher.

Table 3. Fit Indices for Latent Class Analyses and Group Proportions

No. of groups	BIC	aBIC	LMR (p)	BLRT (p)	Entropy	Group proportions
1	5254.384	5190.950				100%
2	5122.823	4992.782	250.294 (p = .063)	-2569.666 (p = .000)	0.690	6% / 34%
3	5106.799	4910.152	135.705 (p = .001)	-2443.484 (p = .000)	0.741	21% / 51% / 28%
4	5164.553	4901.300	62.532 (p = .584)	-2375.070 (p = .000)	0.759	19% / 54% / 14% / 13%
5	5238.799	4908.940	46.176 (p = .027)	-2343.545 (p = .103)	0.787	19% / 28% / 11% / 32% / 10%
6	5317.869	4921.403	41.392 (p = .760)	-2320.266 (p = .250)	0.818	11% / 7% / 8% / 34% / 10% / 31%
7	5402.654	4939.582	35.723 (p = .760)	-2299.399 (p = .286)	0.795	11% / 17% / 4% / 8% / 22% / 9% / 29%

Note. BIC = Bayesian information criterion; aBIC = sample size adjusted BIC ; LMR = likelihood ratio test ; BLRT = bootstrapped LMR.

Table 4. Conditional Probabilities^a for Categories of Change Among Latent Groups

	Group 1 Improved pedagogical support			Group 2 Stability of support			Group 3 Increased administrative support			Group 4 Weakened support		
	<i>Negative</i>	<i>No change</i>	<i>Positive</i>	<i>Negative</i>	<i>No change</i>	<i>Positive</i>	<i>Negative</i>	<i>No change</i>	<i>Positive</i>	<i>Negative</i>	<i>No change</i>	<i>Positive</i>
1. Co-teaching 1^b	0.02	0.59	0.39	0.00	0.88	0.12	0.00	0.81	0.20	0.25	0.75	0.00
2. Co-teaching 2^c	0.00	0.38	0.62	0.06	0.71	0.23	0.00	0.64	0.36	0.41	0.59	0.00
3. Flexible grouping	0.04	0.38	0.58	0.07	0.73	0.20	0.26	0.36	0.38	0.39	0.61	0.00
4. Remedial teaching	0.07	0.47	0.46	0.16	0.72	0.12	0.37	0.63	0.00	0.44	0.52	0.04
5. Learning plan	0.02	0.15	0.83	0.00	0.45	0.55	0.02	0.37	0.61	0.30	0.52	0.18
6. Part-time special education	0.16	0.45	0.39	0.18	0.72	0.10	0.47	0.32	0.21	0.57	0.43	0.00
7. Special needs assistants	0.02	0.62	0.36	0.10	0.77	0.13	0.33	0.37	0.30	0.52	0.45	0.03
8. Cooperation with families	0.09	0.51	0.40	0.00	0.95	0.05	0.64	0.31	0.05	0.53	0.47	0.00
9. Student welfare team	0.01	0.45	0.54	0.05	0.84	0.11	0.41	0.49	0.12	0.60	0.40	0.00
10. Differentiation	0.07	0.30	0.63	0.01	0.90	0.09	0.25	0.63	0.12	0.65	0.35	0.00
Group n^d		59			171			43			42	
Latent class probabilities		19			54			14			13	
AvePP		0.875			0.866			0.852			0.880	

Note. AvePP = average posterior probability. ^aConditional probabilities are distributions of the indicator variables in a given latent group. ^bClassroom teachers or subject teachers are co-teaching together. ^cA special education teacher is co-teaching with a class teacher or a subject teacher. ^dValues based on individuals' most likely latent group membership.

Table 5. Multinomial Regression Analyses for the Assessment of Change

	Group 4 (Ref.)		Group 2		Group 3		Group 1 (Ref.)		Group 2 (Ref.)	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Individual level										
Work experience as a principal (year)	0.96 [0.89, 1.02]	1.02 [0.96, 1.07]	1.00 [0.93, 1.07]	1.07* [1.01, 1.13]	1.04 [0.97, 1.12]	0.98 [0.93, 1.03]				
Work experience in special education										
<i>No (Ref.)</i>										
<i>Yes</i>	2.38 [0.79, 7.15]	1.38 [0.49, 3.86]	2.46 [0.67, 9.01]	0.58 [0.26, 1.26]	1.04 [0.38, 2.83]	1.79 [0.73, 4.36]				
Participation in training concerning support for learning and schooling										
<i>No (Ref.)</i>										
<i>Yes</i>	7.25 [0.96, 54.59]	3.23 [0.96, 10.90]	2.05 [0.40, 10.53]	0.45 [0.06, 3.54]	0.28 [0.03, 2.93]	0.63 [0.14, 2.88]				
School level										
School size										
<i>Amount of students at least 200 (Ref.)</i>										
<i>Amount of students less than 200</i>	0.14** [0.04, 0.53]	0.38 [0.12, 1.19]	0.41 [0.09, 1.95]	2.72* [1.02, 7.29]	2.94 [0.77, 11.23]	1.08 [0.38, 3.12]				
Grade										
<i>Grades 1–6 (Ref.)</i>										
<i>Grades 7–9</i>	0.95 [0.16, 5.79]	1.33 [0.29, 6.19]	2.00 [0.29, 14.04]	1.39 [0.40, 4.91]	2.10 [0.42, 10.47]	1.50 [0.42, 5.33]				
<i>Grades 1–9</i>	3.73 [0.42, 33.33]	3.20 [0.38, 27.12]	5.03 [0.41, 62.40]	0.86 [0.33, 2.20]	1.35 [0.36, 5.03]	1.57 [0.46, 5.34]				

Participating in the initiative						
Action to Develop Intensified and Special Support						
<i>No (Ref.)</i>						
	1.68	2.16	1.42	1.29	0.85	0.66
<i>Yes</i>	[0.50, 5.59]	[0.80, 5.86]	[0.33, 6.14]	[0.43, 3.86]	[0.23, 3.17]	[0.19, 2.23]
Principal's assessment of the school's resources for special education						
<i>More resources are not needed (Ref.)</i>						
	0.19*	0.39	0.26	2.01	1.37	0.68
<i>More resources are needed</i>	[0.04, 0.98]	[0.08, 1.80]	[0.04, 1.68]	[0.87, 4.66]	[0.42, 4.44]	[0.24, 1.95]
Municipal level						
Region						
<i>Metropolitan area (Ref.)</i>						
<i>Southern Finland</i>	1.86	3.38	0.92	1.81	0.49	0.27
	[0.30, 11.72]	[0.56, 20.28]	[0.10, 8.44]	[0.37, 8.84]	[0.08, 3.20]	[0.04, 1.72]
<i>South-Western Finland</i>	1.69	3.50	1.15	2.08	0.68	0.33
	[0.21, 13.52]	[0.50, 24.37]	[0.08, 17.23]	[0.34, 12.79]	[0.06, 8.03]	[0.03, 3.25]
<i>Eastern Finland</i>	8.30	11.79	10.97	1.42	1.32	0.93
	[0.16, 419.86]	[0.23, 591.75]	[0.12, 1010.99]	[0.22, 9.34]	[0.14, 12.52]	[0.12, 7.30]
<i>Western and Inland Finland</i>	0.61	2.44	0.99	3.99	1.62	0.40
	[0.09, 4.11]	[0.41, 14.34]	[0.10, 9.61]	[0.75, 21.18]	[0.22, 12.16]	[0.06, 2.53]
<i>Northern Finland</i>	0.46	5.69	3.12	12.37*	6.79	0.55
	[0.04, 5.57]	[0.84, 38.29]	[0.27, 36.55]	[1.32, 116.20]	[0.52, 89.25]	[0.08, 3.98]
Population						
<i>50 000– (Ref.)</i>	0.78	0.78	0.55	1.00	0.70	0.71
<i>10 000–49 999</i>	[0.18, 3.41]	[0.21, 2.83]	[0.08, 3.60]	[0.34, 2.94]	[0.15, 3.35]	[0.19, 2.58]
<i>0–9 999</i>	0.68	0.44	0.58	0.65	0.85	1.31
	[0.16, 2.95]	[0.12, 1.57]	[0.09, 3.58]	[0.21, 2.00]	[0.18, 4.13]	[0.35, 4.85]

Note. Group 1 = Improved pedagogical support; Group 2 = Stability of support; Group 3 = Increased administrative support; Group 4 = Weakened support; OR = odds ratio; CI = confidence interval.
 * $p < .05$. ** $p < .01$.

THE FINNISH SPECIAL EDUCATION SYSTEM was reformed at the beginning of the 2010s. These reforms were motivated by both pedagogical and financial factors. On the one hand, the reforms aimed to promote inclusive education and secure support for every student. On the other hand, they aimed to decrease the number of students receiving special education, thus decreasing the costs of special education.

This study examines if the practices in municipalities and schools have changed according to the aims of the reforms. It also examines variations in the practices and changes among municipalities and schools. The study provides information on special education system reforms and education policy implementation.