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CHAPTER 11. Experiences of Educational Support for Mathematical High-ability Children in Finland. A Netnography of Parental Perspective from ECE to the School Context

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Abstract

Children who are high achievers in mathematics are statistically uncommon. For this reason, very little evidence is available on how this group is supported in preschool and later on in school contexts. In Finland, the National Curriculum for Early Childhood Education (FNAE, 2017) and Basic Education (2014) requires teachers to cultivate these children's talents. In this paper, 10 families in Finland were studied with the help of netnograpy. The objective was to describe parent's perceptions of the types of support mathematically high-ability students received in the preschool and school context in Finland. The results show that the parents were mostly unsatisfied with the support schools gave to their high-ability children in mathematics, even though these children were recognised in early years as high-ability children. The type/level of support children received to develop their abilities further seemed to be more dependent on their teacher or the teacher's view on the child's needed support in mathematics.

Introduction

Statistically, only 2% to 3% of children are mathematically gifted. These children are qualitatively different from students who are simply 'good at math' (Miller, 1990). Although mathematically high-achieving children typically get good grades in mathematics at school and are good at arithmetic, identifying which students have a mathematical high ability is a complicated matter. Because high-ability children are statistically uncommon, there are very few international studies on mathematically high-ability children or their families. According to Leikin (2011), in 2000–2010 only 12 papers were published in leading journals on giftedness that were connected to mathematics. Further, Jolly and Matthews (2012) synthesised 53 sources published since 1983 on the parents of gifted learners. The analysis revealed gaps in the knowledge and research area of attitudes, values and expectations of families of underserved gifted children; relationships between parents and schools; parents' understanding of giftedness; parents of gifted underachievers; and how parents support and influence their

children at home. Therefore, there are clear needs for research concerning the parents of gifted or high-ability children, in which mathematics education has traditionally been underrepresented.

The social environment, such as parents, peers and educators, influence children with beliefs and attitudes towards the high-ability children's abilities and skills, which are important factors for a child's developing self-conception and motivation (Preckel et al., 2008). There is no evidence for high-ability students having an inherent high motivation and learning ambition; these students need to be encouraged and supported as any other student (Garn et al., 2010). However, Garn et al. (2010) showed that more than half of the parents of gifted students report that school assignments and classroom practices rarely provide challenging tasks or meaning, hindering the development of academic motivation. Therefore, once a student has been identified as a mathematically high-ability student, he or she needs special support in school to develop this unique ability.

In the current paper, we have two aims. First, we want to describe the parents' perspectives. Parents affect their children's lives and educational outcomes in many ways. Therefore, parents are also seen as important actors in the preschool and school context and should be involved in designing and developing the school environment (see Finnish National Curriculum, 2014). In the present paper, we wanted to highlight the parental perspective concerning their high-ability child's support measures because parents are the first and foremost caregivers for their children and are expected, according to the steering documents in Finland, to have an important role in developing early childhood and school context as well as support measures for their child. Therefore, our aim is to bring to the front the parents' voices. Furthermore, we know from the literature that there are many aspects that need to be implemented for a high-ability child to thrive and develop through the preschool and school systems. According to Leikin (2009), there are several crucial components in developing students' mathematical potential: a) parental support, b) special settings in school (and preschool), c) involving technological tools that promote creativity, d) mathematical challenges and e) teachers' proficiency. However, the literature on what type of support high-ability students should be given in mathematics is extremely limited; therefore, it is relevant to provide a broader picture of the subject. With this in mind, the second aim of the paper is to broaden the understanding of which type of educational support measures are provided for high-ability children (from parental perspective) in preschool and school contexts.

Our aim is to outline the different support measures provided to mathematically high-ability children during their educational path based on their parents in Finland. From these premises, we have formulated the following research question: What type of educational support do parents emphasise as supportive for their mathematically high-ability children? To answer the question, 10 families were studied with the help of a netnography, which is a form of ethnography but conducted online. The data were collected from a national online support group for the parents of gifted children. The textual data were analysed with the help of a content analysis. We also draw from the recent literature on educational support on high-ability children and students.

Finnish context

Mathematically skilled children are noted in the Finnish National Curriculum for Basic Education (2017) but not specifically in the National Curriculum for Early Childhood Education (FNAE 2017). However, early childhood education should be organised in collaboration with the child's caregivers so that every child will receive early childhood education and care according to their personal and developmental needs (2018, p. 55). When children enter school age, the notion of giftedness is brought up. According to the National Curriculum (2014, p. 130), during classes 1–2 in basic education, 'Skilled students are given a possibility to deepen their understanding of mathematical concepts...'. Further, during classes 3–6, '*Skilled* students are supported by giving them alternative ways to work and by enriching concepts that are processed in the classroom' (National Curriculum, 2014, p. 239). During classes 7–9, 'Skilled students are supported by giving them alternative possibilities to work with their interest areas, like for example projects and problem-based research activities' (National Curriculum, 2014, p. 376). All these remarks enable high-ability students' individual support and development in their mathematical abilities. When it comes to the National Core Curriculum for Early Childhood Education and Care (2017, p. 87), it states the following:

> *The child's need for support shall be recognised and appropriate support shall be arranged for him or her as the need arises. The organisation of support is based on each child's strengths and needs related to learning and development. The support for development and learning meets the children's individual needs as well as those related to the ECEC community and learning environment. It is*

ensured in early childhood education and care that each child feels accepted as himself or herself and as a member of the group.

Therefore, even though high-ability children are not recognised by the ECEC's core curriculum, their individual needs should be met.

According to Tirri and Kuusisto (2013), Finland has supported academic and creative talent through different gifted programmes and special schools to give students the opportunity to meet like-minded peers. The focus here has been on mathematics and linguistic programmes. Despite high achievement in international assessments, Finland has its challenges when it comes to education of the gifted. According to Tirri and Kuusisto (2013), more accurate information and knowledge regarding giftedness is needed for the public discussion. Also, the role of Finnish teacher education and in-service teacher education needs to be seen as crucial to better recognise and support gifted students. The focus should not only be in enhancing the area of giftedness, but also social and affective domains in student's development and moral concerns.

Teaching mathematically high-ability students

The curricula for high-ability students have had—and still have—different orientations because of the educational approach underlying the regular school curriculum (VanTassel-Baska & Stambaugh, 2008). In general, there are orientations towards the individual growth and interests of the student, in which learning is very much self-directed. Also, the perspectives that have dominated the field are based on the development of high-level cognitive skills as a generative ability that can be applied to any content through creative problem solving and critical thinking. Accompanied with deep content knowledge, this orientation has shown to be successful. Another orientation is of a technological kind, where knowledge follows the standards and measured performance. Furthermore, there are curriculum orientations emphasising the social environment and cultural-historical relations, of which the student is a participant. This involves curricula where the student's future professional life is a guiding principle for the student to develop and understand his or her own potential. Van Tassel-Baska and Stambaugh (2008) concluded, on the other hand, that the most effective curricula incorporate all of the different orientations to some extent.

van Tassel-Baska and Stambaugh (2008) considered it important that any curricula developed for high-ability students should include affective and cognitive issues to enhance students' productivity and self-understanding through their education:

> An affective curriculum for gifted learners would contain the following components: an emphasis on psychosocial development, self-assessment, philosophy of life, bibliotherapy, a talent development plan, and an emotional intelligence curriculum. In addition, the development of counselling skills, writing about emotions, reflection regulation, the promotion of affective development, sanctions and rewards, incorporation of the arts, and problem-based learning are processes that could easily be embedded within the larger curricular context for gifted students. (van Tassel-Baska & Stambaugh, 2008, p. 355; see also Gavin & Casa, 2012)

Although the research on this topic is limited, there is some published literature on the 'best practices' around teaching mathematics to gifted students. According to Leikin (2009) there are several crucial components in developing students' mathematical potential. These include parental support, special settings in school (i e., settings that include technological tools that promote creativity), mathematical challenges and teachers' proficiency. Like Leikin, Mann (2006) also sees that providing the possibilities to be creative is especially important to develop gifted students' talents. Further, according to Robinson et al. (2014), to develop the STEM talents of young and gifted learners, teachers need professional development to identify and cultivate students' talents. This is important especially when the effect of science-focused education on gifted students' science knowledge can be significant (Robinson et al., 2014).

Some research has discussed whether 'acceleration' or 'enrichment' is a successful strategy. Acceleration focuses on learning math concepts for older students earlier, and enrichment focuses on a deeper understanding of the content in the current mathematics class (Koshy et al., 2009). Enriched curriculum might include inquiry-based learning, questions that prompt the students to explain how and why they got their answer, problems with various ways to get to the solution and challenging mathematical puzzles (Johnson, 2000). Therefore, high-ability students are often encouraged to move rapidly through the standard curriculum, with positive outcomes. Through exploratory curricula that engage students in interesting new topics, some programmes for gifted students that pick up underachieving students have been found to be

very positive for students' motivation and sustained interest in learning (van Tassel-Baska & Stambaugh, 2008).

In elementary school, some high-achieving mathematics students are frequently pulled out of class to work in small groups with other similarly high-achieving peers. Research has shown that 'pull-out' classes for mathematics enrichment in elementary school can be beneficial (Plourde, 2008). Pull-out is less common in high school, where there are a variety of specialised mathematics classes (e.g., algebra, geometry, calculus). Thus, at all ages, mentoring and supplemental resources (i.e., resources other than the textbook) are recommended (Johnson, 2000). Despite this, according to Mann (2006), gifted mathematics students usually end up getting more of the same work and/or moving through the curriculum at a faster pace. Additionally, although they are different from typical children in that they pick up mathematical concepts quickly and it might be tempting for teachers to leave them to work independently, high-achieving mathematics students still would benefit from individualised attention from their teacher (Johnson, 2000).

Although there is limited research on gifted children, for several decades, the Study of Mathematically Precocious Youth followed children who were identified as gifted (Lubinski & Benbow, 2006). The findings from this longitudinal study shed light on the development and outcomes of these rare students. Lubinski and Benbow (2006) used work adjustment theory to frame their study of these individuals. Using this theory, they examined the need for individualised education focused on gifted children's specific interests and talents. Further, their theory supports the practice of assessing the child, along with assessing his or her environment, especially the school environment. Applying these findings suggests that gifted children need a specialised academic environment that challenges while also motivates them. Without this kind of environment, these precocious students might not reach their potential (see also Gavin & Casa, 2012).

Teachers who teach high-achieving mathematics students need a solid understanding of mathematics. The current teachers of gifted students report that this understanding should come in the form of rigorous undergraduate courses in mathematics (Karp, 2010). However, many elementary school mathematics teachers lack this background. Consequently, some elementary school teachers report that they do not feel confident in their mathematics knowledge, and this makes teaching high-achieving mathematics students difficult (Koshy et al., 2009). One way to

address this issue is through professional development. Research has shown significant, positive effects for elementary school mathematics teachers following a professional development programme. A study by Robinson et al. (2014) found that a summer institute for elementary school mathematics teachers, followed up with peer coaching during the school year, significantly improved the content knowledge and process skills for gifted students. Dimitriadis (2016) recommended that teachers should be highly trained in both recognising mathematical promise and making subject-specific provisions.

Data and methods

Our primary aim was to study parents' experiences of the educational support they have received for their high-ability children at school. The high-ability status of the children was self-reported and described by the parents. Because there is no register of children characterised as high ability, we had to develop a methodology and design that would target these parents and attract their interest to participate in the study. Finland is a small country, but barely occupied in many areas, making social communities online a popular way of finding and interacting with persons with equal interests.

Research conducted on the internet has become important in modern societies where people spend much of their free time online, connected to different social networks. Therefore, it is possible to collect data and conduct different types of research utilising social media (Laaksonen et al., 2013). According to Hinen (2000), computer-mediated communication (CMC) can enrich research data collection, especially when this can be done, regardless of the limitations in space and time. This has moved ethnographical methods to new environments, for instance, to the internet and the different social networks in it. Ethnography conducted online has several parallel terms (Isomäki et al., 2013). Online etnography, also called netnography, is a form of ethnographic research conducted online in different social media networks with the help of a computer (Kozinets, 2010).

The current research was conducted online, and the data were collected from a national support group for parents of gifted children. This support group was found on a social media website called Facebook. Facebook is the most largely used social media platform, as measured by the amount of users (Herkman & Vainikka, 2012). In this way, we addressed all parents involved in the closed group, and sample selection was based on the participants' own initiatives to

answer. Surveys designed in similar ways as ours have shown the disadvantage of the answering rate potentially being biased by emotional experiences, such as those experiencing themselves disadvantaged being more likely to participate as a way for them to express the offence. However, the answers we received showed a mix of experiences that gave us a broad picture of the experiences of support provided by the schools. On this platform, 10 families answered questions concerning their mathematically high-ability children and the support they received for their children in elementary school and in an early childhood education setting. The respondents could choose to respond directly to a discussion thread created by the research group and contribute to a discussion, or they could send a private message to the researchers. In addition to the discussion or instead of discussion, all of the respondents chose to send a private message to the researchers with more detailed information about their children and children's school experiences.

All of the respondents were female. This is consistent with research on the demographics of participants on online discussion forums. According to Finnish Official Statistics (2016), the majority of the participants in online discussion forums in Finland are female. In these families, there were 13 mathematically high-ability children or youth (five girls and eight boys). In seven families, at least one parent had a baccalaureate degree or higher, but also in five families, both parents had a higher university degree. The oldest of the high-ability children was born in 1997 and the youngest in 2012. Therefore, the children were between 4 and 18 years old. Geographically, the families were living across Finland in different cities in both large and small municipalities.

In the current study, we have used a content analysis. A content analysis can be considered an 'umbrella term' that refers to diverse research approaches. Qualitative research involves the purposeful use of describing, explaining and interpreting collected data (Williams, 2007). Leedy and Ormrod (2001, p. 155) described this as 'a detailed and systematic examination of the content of a particular body of materials for the purpose of identifying patterns, themes or biases'. 'The method is designed to identify specific characteristics from the content' (Williams, 2007, p. 69). In the current study, our data were the texts produced by the parents of high-ability children; the texts were collected and analysed by the research team. The research team was interested in exploring any description about the support measures that were described by the parents. The identified material was discussed, shared and categorised. According to Leedy and Ormrod (2001), this approach leads to the highest level of objective analysis because the

identification of material can be studied and discussed, allowing the quality to be mutually agreed upon. The approach also leads to trustworthiness regarding the descriptions because patterns, themes and biases are discussed within the research team.

Results

In our analysis, we begin by giving an overview of parental experiences and then proceed to categorising the findings connected to support measures in the narratives.

Overview of parental experiences

What stands out in the parents' experiences of early childhood education (noncompulsory) is that only four out of 10 parents were satisfied with the support measures their children were given during the early years. However, a closer look at the parents' narratives show that most children were acknowledged to be high ability in logical and mathematical areas by the preschools, but they were rarely stimulated in a pedagogical and planned way. For example, several parents were expecting their children to be supported and challenged in the early years and expressed severe frustration over the preschool and preprimary school not doing anything to stimulate the child, even though the high-ability feature was a fact tested by standard measures. For example, one parent (number 5) expressed following:

> The preschool did not encourage at all towards reading or mathematics but wanted only to pressure towards social development and playing with others.

However, some parents expressed appreciation with the early years education. For example, according to parent number 2, the preschool environment was seen as a positive learning environment, as follows: 'In preschool, there were more room to be a high-ability individual'. According to a closer narrative analysis of the data, the parents were generally more unsatisfied in the preschool and primary educational environments in the support received for their high-ability child. Table 11.1 compiles the parental satisfactory narratives towards received support. However, it is important to notice that the parents' answers were limited almost only to preschool and primary education.

Table 11.1. Parental satisfactory in narratives of the received support during their child's educational path.

Number	preschool/preprimary	primary education	upper secondary education
1	No	No	-
2	Yes	No	Yes
3	No	No	-
4	No	No	-
5	No	-	-
6	Yes	Yes	-
7	Yes	-	-
8	No	No	-
9	Yes	-	-
10	Yes and no	Yes and no	-

Analysis of support measures

Acknowledgement of the child's high abilities is the perquisite to get support

In the parental narratives, we could identify several factors that were important when supporting the children's proficiency in mathematics. The most important prerequisite in receiving adequate support for the child was the acknowledgement of the child's high abilities in mathematics. The parents who answered the survey revealed that most children's abilities were discovered during early childhood, and this was acknowledged by the preschool staff as well. However, even though children's high abilities were discovered, it did not necessarily lead to any support, as parent number 3 described:

> In the daycare, not (supported) in any way! And the same thing in preschool class nothing was done even though they knew the thing because of MAVALKA (a mathematical readiness mapping) test etc.

However, there were also cases where the children's high ability was discovered later in early grades of compulsory education, for example, after the school had conducted surveys mapping the student's mathematical readiness as a part of compulsory school maturity tests. For example, according to parent number 1:

> I was told that no special challenges were given to the boy, because he was enthusiastically involved in any activities (in preschool class). And that the boy was skilled but nothing 'special'. During preschool class' spring term I asked the

> boy's previous special education teacher to attend the collaboration meeting and she/he asked the psychologist to be a part of the meeting as well. As a result of the meeting some tests were conducted with the boy, and as a result of the test his mathematical thinking and mental calculation skills were on a 13-year-old's level.

Also, the parents needed help in supporting the high-ability children, and sometimes, they might be left outside, even though they were eager to help. This was the case with parent number 10:

> I wished they had advised me somehow further with my child, than just to state that your son is mathematically gifted. I am extremely motivated to support my children.

Individualisation of education

Once the high ability had been recognised, the teachers began using different support methods to develop the children's mathematical skills. Because high-ability children would progress quickly through the regular mathematics curriculum, they were often given additional tasks or material. According to the parents, the education had been individualised in two different ways to support the children's progress in their mathematical ability. This was done by providing the same level extra tasks and materials for the child as the rest of the class or providing higher-level tasks and materials. Also, a combination of these had been used. There seems, however, to be a variation in how this individualisation of education, that is, support, was handled by the children's teachers.

At the lowest level of support, the children were only given additional tasks. Parent number 2 expressed that, additional tasks were offered to their children, but the tasks did not challenge the children's mathematical development in any way, as follows:

> Both children have been forced to do basic calculation tasks unreasonably much. School promises and promises to individualise the school material, but they are the same basic calculation tasks.

The purpose of giving additional tasks to high-ability students were unknown, but the parents expressed frustration towards this type of support because it generally meant that the child was asked to do 'more of the same', which the child already mastered with excellence. Here, the cognitive challenge was absent. Some children, however, received tasks that seemed to be on a suitable level of challenge, like parent number 6 described, but still they would not object to more challenging tasks:

> I have been happy with the support we received during the basic education because my child has been given extra and enough challenging material and he/she has also been able to help other children when needed. Though, I would not object if my child could get even more challenges in mathematics in school.

In some cases, the ambition to provide tasks that stimulate higher-order thinking were promised by schools but never carried out. One parent (number 1) of a boy expressed this outspoken ambition given by the school but added that the ordinary curriculum had to be attended to first and not outside the stated curriculum. The parents expressed a common view highlighting a problematic aspect of this kind of support. Even though the children were given books for higher grades, they had to work through the regular textbooks as well, with sometimes devastating noninterest into mathematics as a result:

> His own class teacher has obtained a 3rd year book to the class, that anyone can work with in the class if they want to. However, first you have to do 2nd year book's chapters in question and first after that you can if you like proceed to 3rd year book.

Further, according to parent number 1, the teacher left the children to engage in what they had an interest in, so the support was about providing more challenging games (that were often meant for older children). However, sometimes, the tasks were available but not supported nor demanded to be completed or followed up by the teacher in any way. This type of practice included the idea that the teacher saw mathematically high-ability children as independent learners with no need for adult supervision. Parent number 1 described it as follows: 'The teacher do no especially encourage or demand (the child) to do the extra tasks'.

Sometimes, upper secondary education provided some children with the opportunity to choose a direction in education where additional and more demanding courses could be given. This opportunity brought a different kind of support because the children were provided with individual tasks and materials and encouragement, for example, to participate in science competitions. These opportunities were seen as very valuable according to the parents whose children had attended this type of specialisation programme. According to parent number 2:

> Children have been given individual tasks, own books, own material, encouragement to competitions, one-on-one individual upwards individualising

> time, flexibility in other subjects, etc. Upper secondary schools that emphasise mathematics and natural sciences are the best!

Another form of providing support at a higher level was to use the parents as teachers. One parent (number 8) was encouraged to find additional tasks online that the child asked for and that they could do at home with the parent as a supervisor—as voluntary and additional to the regular curriculum-based mathematics in school, as follows:

> She has been given, in addition to the math book, another book and we were given instructions from which webpage we could find more challenging mathematical tasks for our daughter. /.../extra material is given but teaching remains as my responsibility.

According to the parents, the children were also very often used as assistant teachers in the classroom. In this type of support, the high-achieving children were not given any extra challenges mathematically because they were already familiar with the type of tasks they were teaching to other children. Some of the parents saw this as a negative punishment, and others did not express any feelings towards this type of activity in the classroom. According to parent number 4:

> Sending a child to help more slower ones or by employing children with an endless number of similar tasks is an obvious punishment.

According to the results, the support given to the children seemed to be heavily dependent on individual teachers, which several parents mentioned in terms of a change of school or teacher substitutes that changed the possibilities for the children to engage in stimulating mathematical studies. However, the support methods that the children were given during their educational paths were very limited from a parental point of view. For example, only one parent described involvement of technological tools. Also, no mathematical challenges that would promote creativity and develop higher thinking skills were described by the parents. One exception was the parent who had children attending a specialised upper secondary school that emphasised mathematics and the natural sciences.

Discussion and recommendations

In this paper, we have outlined the different support measures provided to mathematically high-ability children in Finland during their educational paths according to their parents. Altogether, 10 parents answered an online survey. The survey was presented on a national interest or support group of gifted children on Facebook. In Finland, support—whether it is given to low-

achieving children or high-achieving children—does not need to be based on a diagnosis. This means that a diagnosis is not needed for any kind of additional support, so if a child needs support, it should be given. However, very often in the school context, students who are recognised as high achieving are not seen as in need of extra support by the early childhood education teachers or regular teachers. The findings suggest that the children were used as assistant teachers, and they did not receive mathematical challenges at their own level or beyond it. This result is in line with prior studies (Mann, 2006; Jonson, 2000). Indeed, most of the children were recognised in early years as high-ability children. However, the support the children received to develop their abilities further seemed to be more dependent on the teacher they happened to have or by the teacher's view on the needed support in mathematics. Also, the support the children received was mostly not suitable for developing children's high abilities in mathematic further. It might be just for this reason that the parents were mostly unsatisfied with the support their children had received during the educational path, as shown in Figure 11.1.

According to Leikin (2009), there are several crucial components in developing students' mathematical potential. However, according to the current research, before these components can be put into action, there needs to be a recognition of the high ability from parents and from the school environment. Further, Leikin (2009) saw parental support as crucial in promoting high abilities further. However, according to our study, parents might be in need of information regarding how to support their children further. Parents might know their children best, but they are not necessarily educational professionals when it comes to mathematics and support methods. In the current study, only one parent of the 10 noted that they had been used by the school to enrich their child's mathematical knowledge. Therefore, the present research raises a question about parental engagement in education in Finland in general. Even though the National Curriculum (2014) and the National Curriculum for ECE (2018) highlighted the importance of parental involvement, the parents did not seem to be working together with the school and ECE to promote their child's learning in mathematics. Here, the ECE and school needs to be active and invite parents to a discussion about support measures and individualisation of the educational settings in ECE, at school and at home.

Furthermore, Leikin (2009) found the special settings in the school environment (just like in ECE as well) to be crucial (see also Johnson, 2000; Koshy et al., 2009; van Tassel-Baska & Stambaugh, 2008). This means that the educational environment should take into consideration

children with high abilities and individualise the education so that it would involve technological tools, promote creativity and give children mathematical challenges. According to our study, the teaching was individualised only to some extent with very little creativity from the teacher's side. According to the parents, there were two main categories in providing students extra support in mathematics; support was given at the same level the children already were on (meaning extra work at the same level) or at a higher level (extra work at a higher level). Also, a combination of these were used. Only one parent talked about a computer programme that could be used at home. Further, no creative mathematical challenges were given to the children when the children were in preschool and primary education. In all, the picture of the given support was very bleak. However, it must be kept in mind that the parents do not participate in the actual classroom education, so the picture they have been given of the school context is through the communication with school observations and through the communication with their child. Nevertheless, the parents' perspective does not give a positive picture of the support measures for high-ability students, so we can question the communication between school and home. Also, because so many parents were unsatisfied with the support measures and could not identify more than a few, we can ask whether the school setting would benefit from more knowledge in how to support students with high abilities in mathematics.

This research raises the question about what happens with the children who are not identified in their early years as mathematically high-ability children? In the current study, only those parents participated who knew of their child's high abilities. In Finland, during compulsory education, no standardised national obligatory test is taken (see Harju-Luukkainen et al., 2016). This means that there are different models of operation in the different municipalities in how to detect low- and high-achieving students, which might give children an inequal starting point for their educational path.

In all of the Nordic countries, support for the child's development and learning is a part of high-quality early childhood education and care activities. Every child in need of support is entitled to receive it. However, for a child to receive appropriate support, the high ability needs to be recognised. Especially in Finland, the organisation of support is based on the child's strengths and needs related to learning and development. Also, cooperation with children, their guardians and other interest groups is obligatory (FNAE, 2017). Previous research on mathematically high-ability children's support measures is extremely limited; there are only a few papers that have given an overview on what type of methods teachers are using with high-ability students.

This is most likely the reason why high-ability children are statically uncommon, so it is difficult to get a hold of teachers who work with high-ability children. Even though this student group is statistically very small, they have a great amount of future potential. Therefore, these students should be given various opportunities for learning and developing their abilities. This is also important to prevent achievement loss, which can be seen as a form of future potential. Therefore, much more research is needed in this area on how students should be supported in school and early childhood but also in how teachers should be working with parents, as the National Curriculum (2014; FNAE 2017) obliges. This is not only a challenge for the Finnish context, but for all of the Nordic countries as well. Support regarding learning and development should be present for all children in need of it.

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