

Research Article

Giftedness and talent in inclusive preschools: A multiple-case study regarding identification, teaching, quality of interactions, and experiences of children

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There are gifted and talented children who go unnoticed in education systems and who are not provided with adequate teaching. This is a matter of concern, both for individual children and society at large. This mixed methods, multiple-case study of three inclusive preschools in Sweden investigates identification, teaching, quality of interactions, and experiences of children to advance knowledge on these four matters. The framework includes the Bioecological Model for Human Development and the Differentiating Model of Giftedness and Talent. Before the study started, ethical approval was attained. Structured and semi-structured observations, as well as semi-structured interviews, were conducted over a period of 13 days. Six gifted and talented children and three preschool teachers were enrolled. Both thematic analyses and descriptive statistics were accomplished. Identification was conducted using a bird's-eye view (comparing with peers) and a close look (getting to know each child) using interactions. Teaching was achieved using whole group teaching, small group teaching, one-to-one teaching, and independent work. Overall, there are positive preschool teacher-child interactions and environments in the three preschools. The experiences and interests of the six children confirmed these identifications, teaching forms, and quality of interactions. Significance and knowledge contributions, and suggestions for further research are discussed. This study has relevance to student preschool teachers, preschool teacher educators, preschool teachers, preschool principals, and others interested in giftedness, talent, inclusive education and preschool.

Keywords: Classroom Assessment Scoring System (CLASS); Early childhood education and care; Gifts and talents; Inclusion

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1. Introduction

There are gifted and talented children who go unnoticed in educational settings, such as preschools, and who are not provided with adequate teaching (Borders et al., 2014; Ivarsson, 2023; Merrotsy, 2013; Silfver & Ekesryd Nordström, 2024). This is a matter of concern, both for individual children and society at large. The main rationale of this multiple-case study is to advance knowledge on how to discover gifts and emerging talents in inclusive preschools and teach gifted and talented children in such preschools. Such advanced knowledge can prevent them from going unnoticed and, thereby, missing out on opportunities to thrive, flourish, develop to

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their fullest and contribute to society, presently and later in life. In this study, three Swedish inclusive preschools which enrol gifted and talented children are investigated. The following questions are posed:

RQ 1) How are gifted and talented children identified in these three preschools?

RQ 2) How is teaching for these children implemented to achieve a well-functioning inclusive education?

RQ 3) What is the quality of the preschool teacher-child interactions?

RQ 4) What are the children's preschool experiences and interests?

1.1. Early Childhood Education and Care in Sweden – current Structure

In Sweden, preschools are regulated by international policies (United Nations [UN], 1989, 2015; UNESCO, 1994) and national policies (Sveriges Riksdag, 2010; Swedish National Agency for Education [SNAE], 2018, 2022), valuing inclusion and each child's rights, sense of belonging in preschool, learning and development to their fullest. In Sweden, preschools are dependent or independent, focus on an education that involves teaching and care, and are available to all children aged one to five (Sveriges Riksdag, 2010; SNAE, 2018), resulting in nearly universal attendance (SNAE, 2024). In these, preschool teachers and other preschool staff members work together. Preschools in Sweden also encourage indoor and outdoor play (SNAE, 2018). With such a regulation and nearly universal attendance, Swedish preschools offer an opportunity to identify gifted and talented children early and to implement adequate teaching for them.

2. Literature Review

In *Sweden*, numerous studies have investigated early childhood education and care. However, only a few of these studies have paid explicit attention to giftedness and talent (Ekesryd Nordström, 2021, 2022; Margrain & Lundqvist, 2019; Margrain & van Bommel, 2022). These studies have shown that there is “a lack of education of giftedness” among preschool teachers and other preschool staff members, that “a majority of the preschool personnel believe that gifted children have the right to be noted in preschool settings, but few have suggestions on how this should be conducted” and that preschool teachers and other preschool staff members have “high confidence that their own preschools were sufficient to meet the needs of gifted children” (Ekesryd Nordström, 2021, p. 32). These studies have also shown that there are dilemmas; for example “focusing on both the group and individual children” and “naming someone as gifted in the strong discourse of egalitarian education in Sweden” (Ekesryd Nordström, 2022, p. 271). Moreover, these have concluded that “gifted children have a need for specific cognitive support and a need for social and emotional support”, and that such support includes “curriculum differentiation, higher-order questioning, partnerships, and opportunities to work with like-minded peers” (Margrain & van Bommel, 2022, p. 43). Furthermore, these studies have concluded that Swedish preschool regulations are implicit in relation to giftedness and talent. This means that policy pays attention to gifts and emerging talents using terms such as right of every child or all children (Margrain & Lundqvist, 2019; Margrain & van Bommel, 2022). Additionally, a conclusion of these studies is a need for more research on gifts, emerging talents, and adequate teaching in preschools in Sweden to advance knowledge.

Internationally, several studies and a review have investigated identification and teaching, and paid explicit attention to giftedness and talent. These studies have demonstrated that early identification of gifts and emerging talents is possible and crucial for providing beneficial teaching and support for these children to thrive, flourish, and develop (Coleman, 2016; Gagné, 2013, 2021; Sayler, 2009; Subotnik et al., 2023; Worrell et al., 2021); that (preschool) teachers play a pivotal role in uncovering gifts and emerging talents and supporting gifted and talented children (Gagné, 2021; Subotnik et al., 2023); and that there is no established single way to correctly identify giftedness and talent (Borders et al., 2014; Masters, 2015, 2017; Sternberg & Kaufman, 2018). Observation is one way: Masters (2017) demonstrated, through a case study, that teachers, and also

parents, can identify giftedness through observation. Notably, teachers observe students “in a variety of situations and under a variety of conditions, which gives them valuable insight” (Masters, 2017, p. 114). Kaplan and Hertzog (2016) have suggested a continuum of identification that stipulates various possible indicators of gifts and emerging talents, and identification strategies. By using a variety of indicators rather than focusing on a single one, preschool teachers can adopt a more comprehensive and inclusive recognition process. These studies have also demonstrated that high quality educator-child interactions are essential for creating positive and effective learning environments for all children (Hamre et al., 2013; Pianta et al., 2008). According to Walsh et al. (2017), the use of higher order questions during interactions – for example in storybook reading – is particularly valuable. These questions, they argue, serve to “extend the thinking of young intellectually gifted children” (Walsh et al., 2017, p. 221). Moreover, studies have revealed that teachers, through various teaching and learning pathways, can help gifted and talented children develop at their own pace without undue stress, and that teachers must act as facilitators, creating conditions that encourage children to demonstrate their potential and competence rather than waiting for it to emerge (Kaplan & Hertzog, 2016). Environments where children feel valued, are treated with patience and fairness, and experience positive emotional interactions and high expectations, contribute to increased confidence and effort (Kahveci, 2023). Without these, children can underachieve (Raoof et al., 2024). Reis et al. (2021) have claimed that various forms of enrichment are needed to ensure adequate teaching for all children. Three examples are teaching that sparks new interest for these children, that increases these children’s study skills and allows them to be creative and engage in real world problems. Saranlı (2017), has also claimed that enrichment is needed to ensure adequate teaching for all children. In a study conducted by Saranlı, early enrichment is employed by teachers to expose gifted children to a variety of stimuli, support their developmental progress, and foster a sense of belonging in preschool. Similarly, a case study by Podobnik and Selan (2021), focusing on visual art gifted preschool children, underscored the importance of teacher support and appreciation. They emphasise, by acknowledging and nurturing these children’s efforts, that teachers can help realise the children’s artistic potential and enable them to make effective use their strengths. What is more, Borders et al. (2014) have said that there are gifted and talented children who must navigate their education independently, under the assumption that they will manage it on their own. This is not the case, according to Borders et al. (2014), who wrote that they should also be acknowledged in allocation of resources and teaching: “Inclusion is meant to address the needs of all students in the classroom including those who are identified as gifted and talented. Unfortunately, this population is often excluded from funding and differentiated support.”

The review of identification and teaching (Mossberg et al., 2024) has indicated a need for early, rather than later, identification in educational systems, and a broad and multifaceted identification process and teaching within preschools. In the review, a broad and multifaceted identification process includes the following five influential and interplaying factors: “knowledge about giftedness and talent; opportunities for all children to demonstrate their abilities; identification strategies; collaborations; and teacher education and professional development” (Mossberg et al., 2024, p. 412). Thus, identification is not the same as measuring an intelligence quotient. In the review, teaching within preschools was also related to five influential factors. These were “policies recognising inclusion and gifted and talented children; appreciation of diversity; additional educational provisions; peer interactions and learning; and home-school partnership” (Mossberg et al., 2024, p. 416). Some examples of such additional educational provisions were challenging tasks, stimulating activities, enrichments, projects rooted in the children’s interests, and acceleration.

3. Theoretical Considerations

This study is grounded in two theories: the Bioecological Model for Human Development (Bronfenbrenner & Morris, 1998, 2006) and the Differentiating Model of Giftedness and Talent

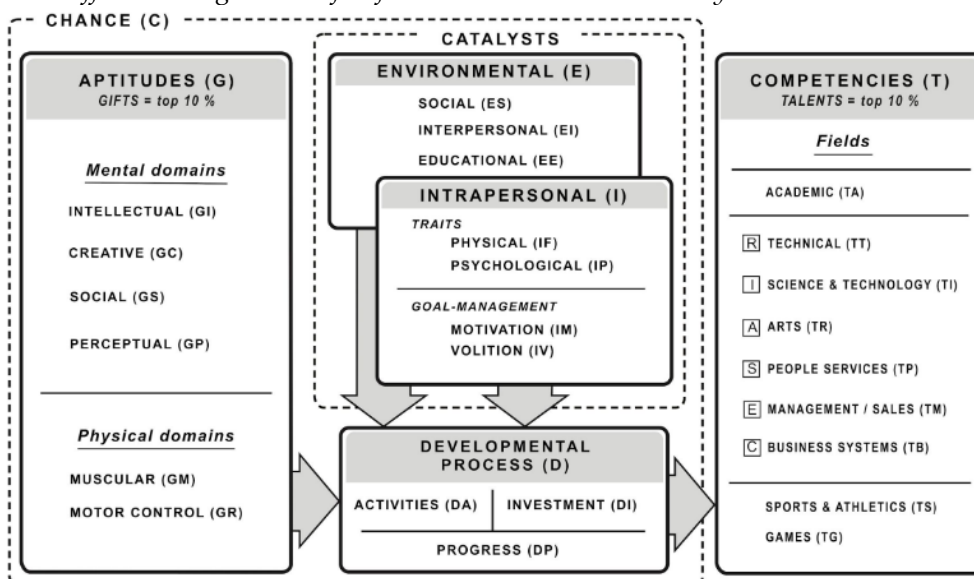
[DMGT] (Gagné, 2013, 2021). Therefore, preschools are understood as microsystem environments influencing children's emotional, intellectual, moral, and social development, as well as catalysts for talent development.

The Bioecological Model for Human Development includes four contextual systems, and two additional systems (i.e., the biosystem and chronosystem), and proximal processes that interplay and mutually influence children's development. The four contextual systems are: the microsystem (i.e., the child's immediate settings, such as preschool and home); the mesosystem (i.e., linkages between these settings); the exosystem (i.e., distal events, seen from a child's perspective, that influence immediate settings and their linkages); and the macrosystem (i.e., characteristics of a culture, such as policy content). The biosystem is the child (e.g., inner motivation and experiences of preschool), and the chronosystem is time (e.g., development over the preschool years and to age). Proximal processes at a microsystem level are engines for development and some examples are teaching, preschool teacher-child interactions, reading a book, playing football, and playing with peers. Interactions with both adults such as preschool teachers and preschool peers are very important, and drive learning and development further (Bronfenbrenner & Morris, 1998, 2006). These systems are often illustrated as growing tree rings. The model is relevant to the study as it explains that a preschool, in which proximal processes take place, is one out of several factors influencing a child's development.

The DMGT is a hierarchical model focusing on talent development. It distinguishes between gifts/giftedness and talents. Gifts and giftedness refer to possession and use of natural abilities, also termed aptitudes in one or several domains. The domains are intellectual, creative, social, perceptual, muscular, and motor control. Natural abilities are not innate but have a strong genetic root, and are, according to the model, more easily observed in childhood than in adulthood. Talents refer to the mastery of systematically developed abilities, also termed high-level competencies, knowledge, and skills in one or several fields. These fields are academic, technical, science and technology, arts, people service, management and sales, business systems, sports and athletics, and games. The model outlines how such natural abilities are transformed into talents through developmental processes. Figure 1 presents an overview of this process and the DMGT. To the left in the model is gifts [G], and to the right is talents [T]. In between them is the developmental process [D], which is influenced by both intrapersonal [I] catalysts, i.e., physical, psychological, motivation, and volition, and environmental [E] catalysts, i.e., social, interpersonal, and environmental.

Figure 1

The Differentiating Model of Giftedness and Talent summary



Note. Obtained from "Dr. François Gagné, 2012-2023, 'DMGT EN', para. DMGT Popular Slides". Reprinted with permission.

and educational (one example being preschool). Chance [C] is the degree of control one has over various influences, including luck. This is therefore illustrated as a 'virtual fence' enclosing these components it is influencing. According to the DMGT, the top 10% of the population has gifts/giftedness and talents, and therefore expressions such as outstanding natural abilities and mastery are used in the theory. This can be understood to relate to a few children in every preschool. The model is relevant to the study as it explains that a preschool is one out of several catalysts facilitating and enhancing talent development. In this study concentrated on early childhood education and care, the term emerging talents is used; no child understood by preschool teachers to be a prodigy was enrolled. High abilities are also used in the study as a synonym for gifts and emerging talents.

4. Method

This study sought to investigate education for gifted and talented children in three inclusive preschools in Sweden. It is part of a PhD research project and a longitudinal study focusing on early identification, teaching, and gifted and talented children's development from preschool to preschool-class and grade 1.

4.1. Research Design

The study had a multiple-case study design (Yin, 2014) and employed mixed methods research (Creswell, 2021) to enable a comparison between the preschools, and produce a rich description of education, giftedness, and talent in these preschools. The preschools constituted the multiple cases. Both qualitative and quantitative data were collected and analysed to provide a rich description of the cases.

4.2. Participants

Preschools and participants were recruited through telephone contact with preschool principals located using web searches.

Out of 69 contacted preschools, both publicly-run (municipal) preschools and privately-run (independent) preschools that receive public funding, three came to participate. All were independent and located in urban (Anemone Preschool and Celandine Preschool) or city areas (Bluebell Preschool). These are fictitious names (see below). Reasons given by preschool principals and teachers for declining included: not enough time or an unwillingness to participate; no gifted and talented children at the preschool at the moment, or none in their last year of preschool; parental leave; and preschool student teachers at the preschool.

After a verbal and written information process on matters such as the right to withdraw consent and anonymization, using telephone and information letters, participants were drawn from two groups in these preschools: preschool teachers and gifted and talented children. The gifted and talented children were identified by preschool teacher nomination. The selection criteria for both groups included: preschool teacher approval and willingness to participate; certification as a preschool teacher; enrolment of at least one child with gifts and/or emerging talents/high abilities in preschool; children's willingness to participate; children being in their final year of preschool; and family approval. The study came to involve six gifted and talented children ($n = 3$ boys and $n = 3$ girls), and three preschool teachers ($n = 1$ male and $n = 2$ female), one from each preschool. Other staff members and parents at the preschools were also informed about the researcher's presence. No objections were received from them.

4.3. Data Collection

Data collection took place in the spring of 2024 by the first author. It was planned in collaboration with each preschool, determining the appropriate timing for its execution. The data were collected through:

- Semi-structured observations (Yin, 2014) conducted over 13 ($N = 13$) whole days, divided evenly among the three preschools, focusing on identification and teaching.

- Structured observations, via the Classroom Assessment Scoring System [CLASS] (Teachstone, 2023), to measure the quality of educator (i.e., preschool teacher)-child interactions, performed during these 13 whole days.
- Semi-structured interviews (Kvale & Brinkmann, 2014) with the preschool teachers, focusing on identification and teaching.
- Semi-structured interviews (Kvale & Brinkmann, 2014) with the gifted and talented children focusing on their preschool experiences and interests. The elements focused on their interests were inspired by the Primary Interest-A-Lyzer (Renzulli & Rizza, n.d.).

The first author conducted the observations without audio or video recording, using only paper and pencil (semi-structured) and the CLASS manual and sheets (structured). During the semi-structured observations, preschool teachers talked briefly to the researcher (i.e., first author). When considered relevant, these short conversations were documented. The interviews were scheduled in collaboration with the preschool teachers and the participating children, and were conducted at the preschools in locations chosen by them. A total of three interviews were held with preschool teachers and five with children, including one interview involving two children simultaneous. The main interview questions are presented in Appendix 1. The interviews were recorded on digital audio files, and transcribed using Amberscript™. All data are securely stored via the first author's personal university account and a safe.

The first author is certified to use CLASS and for this study, the PRE-K - 3RD CLASS version was used. PRE-K-3RD means pre-kindergarten-3rd grade. CLASS generates quantitative numerical data and is a validated instrument (Hamre et al., 2013; Pianta et al., 2008). It measures several aspects related to educator (i.e., preschool teacher)-child interactions within dimensions and three broader domains. The first domain is *emotional support* and focuses on the creation of a sensitive and warm learning environment. The second domain is *classroom organization* and focuses on behaviour management, productivity, and instructional learning formats. The third domain is *instructional support* and focuses on cognitive and language development support. An overview of dimensions related to these three domains is presented in Table 1. Each dimension is scored from 1 to 7, where score 1 to 2 indicates low quality, score 3 to 5 medium quality, and score 6 to 7 high quality. One example is the following: indicators of high quality emotional support – specifically within the dimension of regard for child perspectives – include a preschool teacher who demonstrates flexibility, follows the children's lead, offers meaningful choices, assigns responsibilities, encourages expressions, and permits movements such as wiggling or fidgeting. The other indicators are presented as a note accompanying a table in the results section. The CLASS observations were scheduled to be conducted during the data collection period at each preschool.

The Primary Interest-A-Lyzer is designed for use with children in grades K-3. This instrument does not have right or wrong answers; rather, it is intended for teachers to utilize “as an opportunity to interact with their students [children] on a positive and enjoyable activity” (Renzulli & Rizza, n.d., p. 1). This engagement aims to enhance teachers' understanding of children's interests (Renzulli & Rizza, n.d.). In this multiple-case study, it was used in data collection regarding the six children's interests. Consent for this was obtained from Renzulli (J. Renzulli, personal communication, November 3, 2022).

4.4. Data Analysis

Thematic analyses (Braun & Clarke, 2006, 2022) were conducted on the textual data collected from semi-structured observations and preschool-teachers interviews to identify patterns (i.e., themes) related to identification and teaching. A thematic analysis is a non-linear process, going back and forth between phases when necessary. The analyse process included six phases: (1) familiarization with the data, (2) sematic coding of research data, (3) organizing codes into potential themes, (4) reviewing and refining the themes, (5) naming and defining themes, and (6) writing the results (Braun & Clarke, 2006). In the first analysis, the interview transcripts and observation notes were

read and re-read by the first author to familiarise herself with text linked to identification. The first author noted these sections and sentences, and through critical reading of these, semantically coded data and organised them into potential themes. To ensure all data coded were related to a theme, the first author reviewed them, named the themes, and generated a definition for each theme. Examples of interview responses, observation notes, and associated codes related to the first theme, a bird's-eye view, include expressions such as "stand out", "advanced", "ease and speed", "far ahead", and "wow-factor". As a last step, the first author wrote the result related to identification. The second analysis used the same procedure with one exception; it focused on teaching and learning opportunities provided to gifted and talented children. A CLASS observation summary sheet was used for each preschool, and dimension and domain averages (i.e., means and ranges) were calculated by the first author using the CLASS measure seven-point Likert scale. The quantitative numerical data obtained from the Likert scale, along with calculations, are presented in a table within the results section. The averages of the three preschools were then compared by the first author. Readings of the transcripts from semi-structured child interviews were also made by the first author to identify experiences that either verified or contested the results of thematic analyses and descriptive statistics.

4.5. Credibility and Ethics

The credibility of the study was ensured through several measures. These include the participation of multiple preschools and a well-established and validated instrument (CLASS, Teachstone, 2023) for which the first author obtained the necessary training and certification. The interviews with children were inspired by a well-known instrument (Primary Interest-A-Lyzer, Renzulli & Rizza, n.d.), and triangulation was achieved through the integration of the data from both observations and interviews with staff and children. The thematic analyses were conducted following a recognised and systematic process. The second author took part in the analyses and writing. For example, the second author engaged in discussions with the first author regarding the thematic development, which led to the themes presented in the results section. Together, the authors concluded that the identified themes effectively captured the identification and teaching forms observed in the preschools. Additionally, the second author participated in the selection and composition of the vignettes. Further, extracts, vignettes, and citations from the semi-structured interviews and both types of observations, structured and semi-structured, are interwoven in the results to increase trustworthiness and transparency. These qualitative elements also bring the findings to life and help to contextualise and interpret the numerical data.

To maintain confidentiality, the names of the three preschools and all participants have been anonymised. The preschools are, as mentioned above, referred to as *Anemone Preschool*, *Bluebell Preschool*, and *Celandine Preschool*. Correspondingly, the preschool teachers are referred to as *Avery*, *Blake*, and *Cleo*, while the gifted and talented children are referred to as *Ashton*, *Beck*, *Brook*, *Charlie*, *Casey*, and *Cory*. The initial letters of the pseudonyms were intentionally aligned to reflect preschool affiliation.

Ethical approval (2023-01953-01) was obtained from the Swedish Ethics Review Authority.

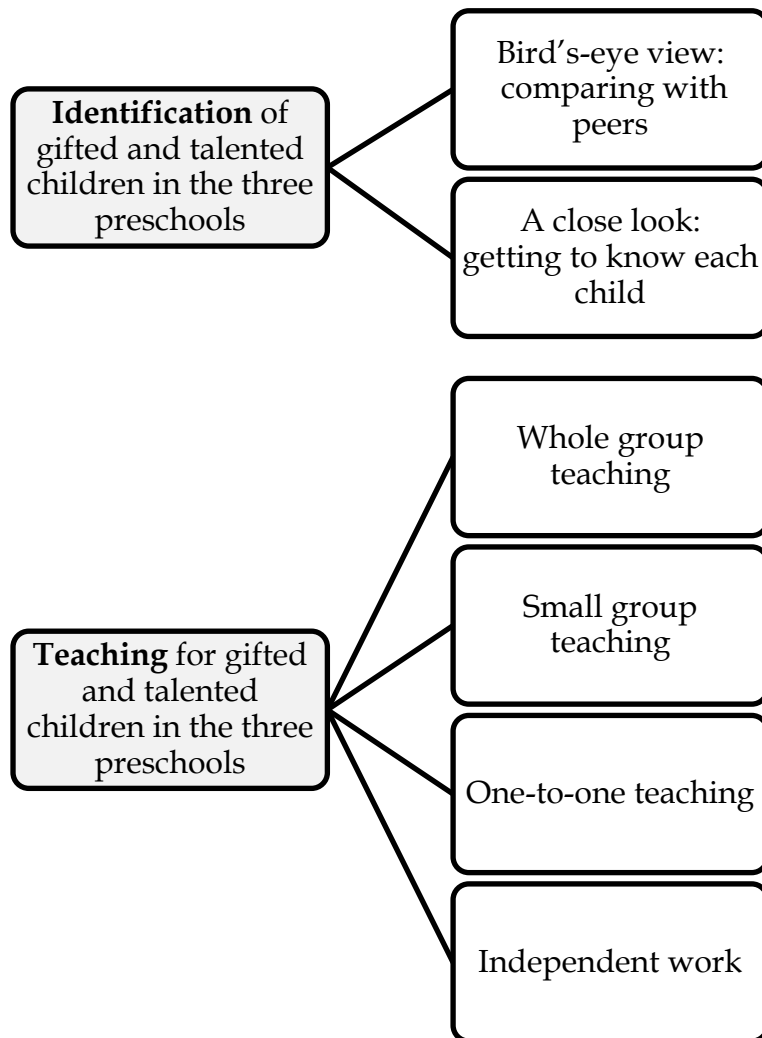
5. Results

The preschool teachers express, and the observations reveal, that the presence of gifts and emerging talents in the three preschools make their work both interesting and difficult at the same time. This will be described below. First, the themes connected to identification (RQ1) and teaching (RQ2) are presented. These two research questions, and the corresponding themes of the qualitative findings, are presented in Figure 2.

Thereafter, the measures of quality of preschool teacher-child interactions (RQ3) and experiences of the children (RQ4) are presented.

Figure 2

Overview of the qualitative findings



Note. In addition to the four teaching forms, the children also learn new knowledge during play time and daily routines.

5.1. Identification of Gifted and Talented Children in the Three Preschools

The identification is performed by the preschool teachers. During the analyses of observations and interviews, two themes were generated and connected to RQ1: *Bird's-eye view: comparing with peers* and *A close look: getting to know each child*. These identifications are used in parallel and considered to complement each other. Thus, in the preschools, the preschool teachers both take a bird's-eye view and look closely in order to identify gifted and talented children.

5.1.1. Bird's-eye view: comparing with peers

The first theme reflects that the preschool teachers take a bird's-eye view. This expression refers to comprehensive observations by which the preschool teachers compare children with their peers from a distance to discover gifts and talents.

The preschool teachers use one word and short expressions to describe what they observe from a distance. One example is "stands out among his peers" (Avery). Some more examples are "advanced fine and gross motor skills", "[more] energy and drive", "challenge themselves further in ways peers do not", "advanced vocabulary" (Blake), "thirst for knowledge", "knowledge-wise" and "ease and speed in learning" in comparison to peers, as well as "far ahead of peers" (Cleo).

Moreover, they say: "she [Brook] wonders about things no one else has even thought about, not even me" and "they [Beck and Brook] obviously stand out in my opinion. Over time, they have

impressed [me] in various ways through their interests, and understanding of things, [so they] no longer shock me". Blake also uses the expression "wow-factor". Cleo describes Cory as follows: "she has always been ahead [of peers], sprinting away. She thunders forward."

According to the three preschool teachers, these words and expressions are descriptions of eye-catching characteristics relating to gifts and emerging talents.

5.1.2. A close look: getting to know each child

The second theme reflects that the preschool teachers take a close look and thereby get to know each child. Looking closely refers to preschool teacher-child interactions embedded in teaching, play, and daily routines.

One example is the following: Avery sat together with Ashton and observed him thoughtfully create a detailed bead plate design of a truck and its surroundings. They interacted about both the process and the intended product. One part of the interaction was about colours. According to the child, no bead represented the right colour of the asphalt since it changed colour over time. In this situation, Avery talked about Ashton as "forward and creating beautiful things with patterns. He has a thought behind what he does, and it is very detailed". One more example is: Blake plays football with Beck and observes gifts in several domains, such as muscular and motor control, as well as an emerging talent in the field of sports and athletics. Blake says: "He keeps fighting [for the football] all the time and he has an ability to readjust [...]. He constantly wants to push himself to do better."

The three preschool teachers use one word and short expressions to also describe what they observe from a proximal viewing. During this proximal identification, they term gifts and talents as "curiosity", "an ease in learning" (Avery), "engagement", "a personal drive", "strong self-confidence" (Blake), "inquisitiveness" and "strong interests" (Cleo). They express, for example: "He [Ashton] is a curious boy, and he is very positive about everything. He wants to learn new things. He asks questions and likes to participate in everything. Motorically, he is also very quick to learn and absorb" (Avery). "He [Beck] shows engagement in physical activities, sports, and athletics, and he is interested and eager to try new things and learn them" (Blake).

According to the three preschool teachers, interactions create opportunities for a child to demonstrate gifts and emerging talents, and for teachers to discover gifts and talents in a proximal viewing.

In Anemone Preschool, a self-made structured observation rating scale, aimed at following, documenting, and analysing motor skills, is also used to get to know Ashton and his peers. It provides information on motor skills development, including advanced skills in this matter.

5.2. Teaching for Gifted and Talented Children in the Three Preschools

Four themes were generated and connected to RQ2: *Whole group teaching*, *Small group teaching*, *One-to-one teaching*, and *Independent work*. These forms of teaching, and learning opportunities seen from the children's perspective, are implemented either one at a time or in parallel and, at times, also transition from one form to another in the preschools. One example is whole group teaching which, at the end, transitions to independent work. The preschool teachers say these forms complement each other and underscore the importance of varying teaching forms to facilitate and enhance development, including talent development, of gifted and talented children. According to the teachers, each form presents its own set of advantages, necessitating an alternate and parallel use.

5.2.1. Whole group teaching

The first theme demonstrates that the preschool teachers implement whole group teaching. In this teaching form, all children, including the gifted and talented children, take part.

Some examples are book time, having all children paint together, and outdoor circle time, for example about bees:

Brook and her peers play outside. Blake calls for their attention. He shows pictures of bees. They

interact about bees. One peer also shares a story about a bee, and Brook asks questions concerning how bees can fly to the flowers when it is raining, or when the wind is blowing, which they are reasoning around. After this, the whole group walks to beehives nearby. During the walk, Brook interacts with a peer but moves on to interact with Blake when the peer loses interests in bees. (Vignette from Bluebell Preschool)

The preschool teachers say whole group teaching presents advantages and challenges. As Avery notes, “sometimes it can be a challenge to plan in a way that captures all [children, including Ashton]”. On the other hand, Avery says that whole group teaching offers several opportunities to learn with and from peers, and enhances the enjoyment of learning. Blake explains, “it is an art in itself to combine [whole] group and individual levels [...] but sharing experiences and knowledge in a large group can strengthen their [i.e., Beck and Brook] self-esteem and confidence, which can aid their development”. Cleo says that whole group teaching is not where Beck and Brook and their peers in preschool learn the most, and Avery concurs, stating, “regardless of whether they [children] have difficulties or if they are ahead of peers [...] the large group is not the best choice”.

5.2.2. *Small group teaching*

The second theme demonstrates that the preschool teachers implement small group teaching. In this teaching form, gifted and talented children and only one or a few peers take part. They can be of the same age or mixed ages.

Some examples are Avery, Ashton, and three peers collaboratively building with blocks; Blake, Beck, and four peers playing with water outside while discussing the buoyancy of various objects; and Cleo, Casey, and one peer preparing lunch while discussing volume, ingredients, and recipes. One more example is small group teaching incorporating craft work:

Blake initiates small group teaching. Brook takes part. He brings out papers, water, paint, and brushes. The small group makes flowers for wreaths. He cuts out flowers and hands them to the children so they can colour them. Brook and peers are enthusiastic, talking loudly and cheerfully about the summer and how they want their flowers to look. Brook uses a small pair of scissors to neaten the edges before painting her flowers in detail, while explaining in what order she wants them attached on her wreath. (Vignette Bluebell Preschool)

According to the preschool teachers, small group teaching creates opportunities to provide detailed explanations to the children, gain insight into their progress in learning, and align with their interests. Avery emphasizes: “Smaller groups make it easier to meet [teach] all children, to explain and demonstrate. [...] I emphasize that it is best for everyone [including Ashton], this is something I have seen over the years.” Blake and Cleo agree: it allows them to “learn together and delve into a shared interest” and this is “when they can take in what we say and can [...] explore [further]”.

5.2.3. *One-to-one teaching*

The third theme demonstrates that the preschool teachers implement one-to-one teaching for the gifted and talented children. This form involves a teacher working exclusively with a gifted and talented child in the preschool.

Blake explains: “There are occasions when there is more time, then I take those opportunities [...] to sit individually.” For example [with Brook], “I sit down and explain how to spell different words and take care of her questions”. Blake also explains when [Beck] “gets picked up last among the oldest children, and he asks to play football, then I take that time, to [...] do some extra practice, specializing in dribbling and do some extra exercises for him”.

One more example is an experiment that started in whole group teaching:

During whole group teaching, they undertake an experiment. Ashton is first to try. After trying twice, he manages it. His peers also want to try. When play time begins, Avery leaves the experiment on the floor. Ashton curiously does it again, and Avery joins him; the two discuss how to refine and develop, and when Ashton might find it useful in everyday life. Ashton asks many

questions, which Avery answers. (Vignette from Anemone Preschool)

The preschool teachers say that one-to-one teaching facilitates and enhances the children's learning and offers them, even more, insights in children's progress in learning on matters such as cognitive development, breadth and depth of knowledge, and ease and speed of task execution.

Avery notes, "I worked with [Ashton] myself because I wanted to see how it went. He was very quick to do this, there were no problems. He is probably one of the fastest actually that I've worked through this [a fine and gross motor work-material] with". Working one-to-one also facilitates and enhances the gifted and talented child's focus and knowledge acquisition.

Cleo says, "[Charlie] works best when it is only him alone. I think that has a lot to do with his focus and his slightly sprawling personality. [...] So for him it works best to be one-to-one. [...] Then he absorbs as much knowledge as is possible".

5.2.4. *Independent work*

The fourth theme demonstrates that preschool teachers implement independent work for gifted and talented children. This involves preschool teachers providing individual tasks for the gifted and talented children to complete autonomously, with the preschool teachers providing guidance on the side, when needed. In this form, the children can be understood as driving their own learning to a high degree. As with whole group, small group, and one-on-one teaching, this form calls for teacher preparation, allowing them to deliver tasks efficiently and ensuring necessary learning materials and tools are accessible.

Two examples of independent work are Ashton conducting worksheets in different subjects while peers are doing other sheets or playing, and Brook learning English using materials provided by Blake while peers are playing. One more example is weaving on their own (Casey) while Cleo demonstrates how to weave to peers. Yet another example is independent work on learning how to read more words:

Cory is sitting at a table with a deck of word cards. She reads the first word 'map' and gets up to find a map. Once she finds it, she leaves the card there and goes back to her deck. This repeats with new words such as 'mug', 'binder', and 'teacher'. When Cory comes back and turns over the card 'ruler', she gets stuck. She tries to blend the sounds together and points at the letters one by one but can't figure out what it says. After a few attempts, Cleo, who has been standing nearby listening to Cory's attempts to read the word out loud, comes over. She sits down and points at the letters, sounding them out together with Cory, who then reads 'ruler'. Happily, she goes off to find a ruler, and Cleo moves on to help another child who is working with a large world map on the floor. (Calendine Preschool)

During independent work it is, according to the preschool teachers, essential to provide gifted and talented children with time and opportunities to "work at their level" (Cleo) and "challenge themselves" (Blake).

They value independent work as a component of their teaching, and Avery says:

They work with different things, not everyone works with the same thing [...] I think it's important that they get to learn that not everyone has to work with the same thing [rather so, that] it becomes a natural part [of preschool]. This allows me to 'push on' [Ashton] so that he gets to do things that are a little more challenging.

5.2.5. *Play time and daily routines*

In addition to these four forms of teaching, the six children learn new knowledge during play time and daily routines. Three examples are looking in books (Beck), drawing (Casey), and mealtime (Ashton). In play and daily routines, they learn on their own or with peers, and interact with preschool teachers and peers.

5.3. **Quality of Preschool Teacher-child Interactions in the Preschools**

The quality of preschool teacher-child interactions in the preschools, including teaching, are presented in Table 1.

Table 1

Overview of the quantitative findings of preschool teacher-child interactions in the preschools, by domain

	Preschool 1	Preschool 2	Preschool 3	Range across pre- schools	Mean across pre- schools
Emotional Support Domain	Dimension Average				
Positive Climate	7	5	5	2	5.7
Negative Climate ¹	1 (7)	2 (6)	1 (7)	1	6.7
Educator Sensitivity	7	5	7	2	6.3
Regard for Child Perspectives	6	6	5	1	5.7
Domain averages	6.7	5.5	6.0	1.2	6.2
Classroom Organization Domain	Dimension Average				
Behavior Management	5	4	7	3	5.3
Productivity	5	4	7	3	5.3
Instructional Learning Formats	7	4	6	3	5.7
Domain averages	5.7	4.0	6.7	2.7	5.4
Instructional Support Domain	Dimension Average				
Concept Development	5	6	1	5	4.0
Quality of Feedback	3	3	3	0	3.0
Language Modeling	6	5	4	2	5.0
Domain averages	4.7	4.7	2.7	2.0	4.0
Range by preschool	4	3	6		
Mean by preschool - dimensions	5.8	4.8	5.2		
Mean by preschool - domain	5.7	4.7	5.1		

Note. ¹Negative climate is counted as reversed in domain average and mean across units; English (USA) in the CLASS instrument. Score 1 to 2 indicates a low quality, score 3 to 5 is medium quality, and score 6 to 7 signifies high quality. *Positive climate* reflects emotional contact, smiling, enthusiasm, verbal and physical affection, and respectful communication. *Negative climate* denotes irritability, anger, shaming or criticizing, or bullying. *Educator sensitivity* reflects that the teacher anticipates needs, checks in with children, provides comfort and assistance, helps in a timely manner, the children seek support and guidance. *Regard for child perspectives* shows flexibility and follows children's lead, provides meaningful choices, and gives responsibilities, encourages expressions, and allows children to wiggle or fidget. *Behavior management* is clear and consistent, anticipates challenging behaviours, low reactivity, uses positive phrasing and subtle cues to redirect. *Productivity* is possible when activities are available, minimal waiting, clear instructions and consistent routines, learning opportunities within transitions, and materials are ready and accessible. *Instructional learning formats* shows educator engagement, variety of strategies, active participation, and materials or activities supporting learning goals. *Concept development* is demonstrated by effective why or how questions, evaluation or synthesis, open-ended activities or play, builds on previous knowledge or experience, and real-world applications. *Quality of feedback* checks for understanding and adds or removes challenge, follow-up questions, asks children to explain thinking, uses specific feedback and adds detail, and recognises effort. *Language modeling* can be observed through peer conversations, individualized prompts, children communicating as able, repeating and expanding, labelling and describing, and using varied language (Teachstone, 2023, p. 36-136).

Across preschools, the dimension *educator sensitivity* and emotional support domain have the highest mean scores. The dimension *quality of feedback* and the instructional support domain have the lowest mean scores, indicating that there is some need for improvements in all three preschools.

Anemone Preschool has dimension scores indicating medium quality and high quality. Its strengths are *positive climate*, *educator sensitivity*, *regard for child perspective*, *instructional learning formats* and *language development* (Table 1). *Quality of feedback* has the lowest score. The dimension average is 5.8, indicating almost high quality. Bluebell Preschool has dimension scores indicating medium quality and high quality. Its strengths are *regard for child perspective* and *concept development*. As in Anemone Preschool, *quality of feedback* has the lowest score. The dimension average is 4.8, indicating medium quality. Calendine Preschool has dimension scores indicating low quality, medium quality, and high quality. Its strengths are *educator sensitivity*, *behavior management*, *productivity*, and *instructional learning formats*. *Concept development* and *quality of feedback* have the lowest scores. The dimension average is 5.2, indicating medium quality.

Overall, there are positive preschool teacher-child interactions and environments in the preschools. No mean values, by or across preschools, are below 3 which would indicate low quality.

5.3.1. Preschool experiences and interests of the gifted and talented children

The experiences and interest of the children confirm these identifications, teaching forms, and quality of interactions. They say, with self-confidence, that they are good at many things, attend to the teaching, play, learn new knowledge, and like to interact with their preschool teachers. In short, they have self-confidence and are generally positive towards their preschools and, for example, say:

- *Identification*: “I am better [at football] than everyone”, and “I know everything” (Beck). “I know so many things I am good at” (Brook). “I am good at singing, being quiet, and listening, I can make small things out of a rubber band” (Charlie). “I have borrowed a book from the library that I have read all by myself” (Cory).
- *Teaching forms (and learning opportunities)*: “I make my own books, draw pictures, and write on my own. If I don't know a word I just ask, and someone tells me how it is spelled, and then I know how to write the word. Sometimes I look in animal- or flower books to get facts, and [after this] have something more to write” (Brook). “There are a lot of things to do [at Blubell Preschool]” (Beck). “[Cleo] has said that if I cannot read a card [from the reading deck] I should put it in the back, because then I might know it next time instead of getting stuck” (Casey). When I have completed a task or work area, then I want to do something else, sometimes I want to do more things” (Cory). “I started on the pink level, it was really easy to read, so now I am already on the blue level” (Cory).
- *Interactions*: “I like to play with building blocks together with my [preschool] teacher” (Ashton). The best with the teachers is [Blake], because he plays football with me” (Beck). “The best with [Cleo] is when she creates new things we can use, like those cards [to read]” (Cory). “I do not always know what to do outside, I like when the teachers give me suggestions beforehand” (Brook). “The best thing about the teachers is that they are so kind” (Brook).

They also describe matters that can be understood as needs for improvement, for example: “I want the teachers to participate more in play” (Ashton) and “I would like to conduct more experiments” (Beck).

6. Discussion, Conclusions, and Implications

In this study, the aim was to investigate the education of gifted and talented children in three Swedish inclusive preschools.

The results show that identification was conducted using a bird's-eye view, that is, comparing with peers *and* taking a close look, that is, getting to know each child using interactions. The results also show that teaching in inclusive ways was achieved using whole group teaching, small group teaching, one-to-one teaching, and independent work. No teaching was organized as pulled-out-services or special education. These forms of teaching constituted learning opportunities for the gifted and talented children and are in keeping with the theoretical considerations, understood as both proximal processes at a microsystem level influencing children's emotional, intellectual, moral, and social development (Bronfenbrenner, 1998, 2006), as well as catalysts for talent development (Gagné, 2013, 2021). Moreover, the results show there is positive preschool teacher-child interactions and environments in the three preschools. Furthermore, the experiences, and also interests, of the six children confirmed these identifications, teaching forms, and quality of interactions.

These results indicate that preschool teachers and other preschool staff members can combine distal observations and proximal interactions to identify gifted and talented children and implement different teaching forms to achieve well-functioning inclusive education for them.

However, quality interactions are necessary if this is to be, both during identification, teaching and preschool play and daily routines. This was the case in the participating preschools.

6.1. Noteworthy Results – Identification

First, the results show that formal identification strategies such as tests, rating scales, or screening tools – except for a self-made structured observation rating scale about motor skills – were not used. Instead, the teachers observed the children from a distance, compared them with peers, decided if they stood out, and interacted with them to get to know them. Therefore, in these preschools, identification refers to a discovery rather than an outcome of a test or similar. What is more, the identification conducted using observation and interactions, at a microsystem level, was not related to a written preschool plan nor conducted in systematic collaboration with parents at a mesosystem level. Masters (2015, 2017) and Mossberg et al. (2024) have concluded that both parents and teachers can play a role in identification. However, this did not seem to be the case in these preschools.

Second, the preschool teachers did not seem to use terms such as gifts, giftedness, aptitudes, (emerging) talents or talented, associated with theory on giftedness and talent (e.g., DMGT, Gagné, 2013, 2021). Instead, they used their own words and short expressions for what they observed and understood via interactions, that is to say, adjectives and traits which can be associated with giftedness and talent. One explanation is that they are not so familiar with giftedness and talent theory and concepts, which can be ascribed to an absence of giftedness in teacher education in Sweden, as presented by Ekesryd Nordström (2021). Another explanation is that they prefer to keep such concepts in mind and describe the children's gifts and emerging talents in a more easy and direct way.

Third, the results show how the preschool teachers first were surprised and blown away by the children's high abilities and then got used to their high abilities, and observed these over time, also during the timespan of this multiple-case study. Therefore, identification in these preschools was not related to a child that surprised them once with high abilities; it was related to a longer period, referred to as a chronosystem influence in the bioecological model (Bronfenbrenner, 1998, 2006), in which they recurrently demonstrated and also developed talents.

Even though identification was made using observations and interactions in these preschools, it may not be the case in preschools in which staff are not aware of giftedness and talent. For example, a preschool principal, preschool teacher, or other preschool staff member can be surprised and blown away by a child but, thereafter, no longer thinks about it in terms of giftedness and talent. This does not seem unlikely to happen in Sweden, a country that only implicitly mentions giftedness and talent in preschool policy (Margrain & Lundqvist, 2019; Margrain & van Bommel, 2022) and does not pay much attention to giftedness and talent in teacher education (Ekesryd Nordström, 2021). Statistics (Gagné, 2013, 2021) say that at least one child per preschool has gifts and emerging talents, or high abilities if preferred. As many as 69 preschools also chose not to participate in this study. One reason was that they believed that there were no gifted and talented children enrolled in their preschool.

Ways to transform initial impressions into sustained recognition of giftedness and talent are to observe children and interact with them to get to know them, for example, by posing higher order questions. As Walsh et al. (2017) suggest, such questions enable children to expand their thinking, and this provides opportunities for them to demonstrate gifts and talents.

The conclusion regarding identification is that the teachers, first and foremost, relied on observations, peer comparisons, and interactions at the microsystem level. This aligns with previous research (Masters, 2015, 2017; Mossberg et al., 2024; Sternberg & Kaufman, 2018): it shows observation and interactions are useful and valuable in identification. Moreover, the pivotal role of teachers in identification is demonstrated, as noted by Mossberg et al. (2024). This suggests that the identification in the three preschools has support in research.

6.2. Noteworthy Results – Forms of teaching

All forms of teaching seemed playful and often thematically oriented rather than demanding and focused on one subject at the time. This is important to note, so that the teaching of the gifted and talented children and their peers in these preschools is not mistaken for strict lectures, tasks to be done at a certain time, homework, and tests. These children also often played in preschool, as did their peers. This approach to teaching aligns with Kaplan and Hertzog's (2016) assertion that diverse and flexible learning pathways are essential for supporting the development of gifted and talented children.

All forms of teaching were also considered to complement each other, and this indicates the importance of varying teaching forms to ensure gifted and talented children thrive, flourish, and also develop their talents. However, the preschool teachers elaborated and said that in small groups, one-to-one work, and independent work it was easier for them to meet the needs of the gifted and talented children as well as follow their knowledge development. This element of the results indicates that there must be a balance between teaching forms (i.e., whole group, small group, one-to-one work, independent work) and not only whole group teaching in preschools. Thus, these preschools provided valuable learning opportunities for the children, which constituted both proximal processes at the microsystem level shaping children's emotional, intellectual, moral, and social development (Bronfenbrenner, 1998, 2006), and educational catalysts for their talent development (Gagné, 2013, 2021).

The preschool teachers' didactical and daily choices of a teaching form seemed influenced by several environmental factors, as suggested by Bronfenbrenner and Morris (1998); for example, time of year, their own creativity and commitment, number of preschool staff members in place, group size, available learning materials, learning objectives, and children's interests and emerging talents.

Further, the teaching forms seemed at times pre-planned and at other times spontaneous. Consequently, different group constellations of children were used, creating a dynamic that influenced how the preschool functioned and how the preschool teacher, children, and their peers interacted and learned new knowledge. This dynamic can be understood as essential for achieving well-functioning inclusive education in which all children, including gifted and talented children, are appreciated, have a sense of belonging, thrive and flourish, and develop. The forms jointly created a learning environment that collectively contributed to a holistic and meaningful preschool education, ensuring gifted and talented children were supported their development. This includes teaching and supporting children with diverse forms of potential, including potential not traditionally emphasized within formal education, such as artistic potential (Podobnik & Selan, 2021), as was evident in the participating preschools.

The conclusion regarding teaching is that the teachers employed and valued four distinct forms of teaching, all of which were characterised by a playful and thematically oriented approach. This aligns with previous research (Kaplan & Hertzog, 2016; Margrain & van Bommel, 2022; Mossberg et al., 2024; Podobnik & Selan, 2021; Reis et al. 2021; Saranlı, 2017; Walsh et al., 2017), indicating that the teaching observed in the three preschools has support.

6.3. Noteworthy Results – Quality of interactions

In line with the theoretical frameworks of Bronfenbrenner (1998, 2006) and Gagné (2013, 2021), the interactions observed occurred at the microsystem level and constituted educational catalysts.

The CLASS observations (Teachstone, 2023) show that no mean values, by or across preschools, are below 3, indicating low quality. The dimension *educator sensitivity*, and the emotional support domain, have on an average the highest mean scores. This indicates that the teachers effectively supported the children's social and emotional functioning, and that the children had opportunities to develop a sense of self and relationships with peers, supported in a responsive way by the preschool teachers. Similarly, Podobnik and Selan (2021) have emphasized that support and appreciation should be directed toward children's efforts; this is what the three participating

preschool teachers did.

The dimension *quality of feedback*, and the instructional support domain have the lowest mean scores. Thus, according to CLASS, there is some need for improvements in all three preschools. This could also be the case in other preschools. To give effective feedback, preschool teachers must, according to CLASS, meet the children at their level of development with extended, specific, and individualized feedback, and uphold scaffolding when the children deepen and broaden their learning. Motivation and persistence are enhanced by encouragement and affirmation (i.e., feedback) for efforts, rather than work products.

The conclusion regarding quality of interactions is that many positive dimensions are worth protecting, and that there are some dimensions where improvement is possible, according to CLASS (Teachstone, 2023), indicating effective early childhood interactions in the preschools.

6.4. Noteworthy Results – Preschool Experiences and Interests of the Children

It should be emphasized that the experiences of the children, at the biosystem level, confirmed the identification, teaching forms, and quality of interactions. Thus, the teachers discovered gifts and talents in children who felt they had high abilities, even higher abilities than their peers. This is positive since the preschool teachers see what the children feel and know.

They also implement teaching that the children appreciate and are interested in, one example being football and another being writing. This is also positive: it is a recommendation termed enrichment (Reis et al., 2021) and an indicator of high quality preschool teacher-child interactions (Hamre et al., 2013; Pianta et al., 2008; Teachstone, 2023). The children's suggestions for improvement also seem to align with the results. They appreciate their preschool teachers and want them to play even more with them and to do more experiments.

Here, the conclusion is that the children are thriving, flourishing, and developing in preschool. Rather than expressing a desire for something different, they articulate a wish for more of the experiences and opportunities they already have and enjoy.

6.5. Significance and Knowledge Contribution

The study provides useful and valuable knowledge regarding identification and teaching, and well-functioning inclusive education for gifted and talented children, what it looks like and how it can be achieved. Its significance lies in its dual focus on both identification and teaching of gifted and talented preschool children, examined through a mixed methods and multiple-case study design. It can form the basis for preschool discussions and be course literature in preschool teacher education and further education of preschool teachers and other preschool staff members.

The main contributions are confirmations of previous research and advance knowledge. These confirmations are, for example, that preschool teachers have high confidence that their preschools see and meet the needs of gifted and talented children (Ekesryd Nordström, 2021), that it is a challenge to focus both on a whole group and individual children during teaching, that terms such as *gifted* are not always used (Ekesryd Nordström, 2022), that teaching should include enrichment, differentiation, work with gifted and talented peers, higher-order questioning, challenging learning tasks, stimulating activities, and projects rooted in the child's interests (Margrain & van Bommel, 2022; Mossberg et al., 2024; Reis et al., 2021), that early identification of gifts and emerging talents is possible (Coleman, 2016; Gagné, 2013, 2021; Mossberg et al., 2024; Saylor, 2009; Subotnik et al., 2023), that (preschool) teachers play a pivotal role in uncovering gifts and emerging talents, and supporting gifted and talented children (Gagné, 2021; Subotnik et al., 2023), that there is no established single way to correctly identify giftedness and talent (Borders et al., 2014), that teaching allows gifted and talented children to develop at their own pace without undue stress (Kaplan & Hertzog, 2016), and that gifted and talented children will not manage on their own (Borders et al., 2014).

The advanced knowledge, first and foremost, regards how to discover gifts and emerging talents in preschools, and teach gifted and talented children in such preschools, as well as how these preschools are experienced by six gifted and talented children and the interaction quality

they experience.

6.6. Further Research

The study was limited to three privately-run (independent) preschools, involving six gifted and talented children and three preschool teachers. Publicly-run (municipal) preschools were not included in the sample. Additionally, the study did not examine the frequency of identification or the prevalence of specific teaching forms over an extended period, as data collection was conducted during a span of 13 days. The identification of gifted and talented children was based on teaching nomination. Furthermore, the study did not focus on underachieving children nor under-represented groups of gifted and talented children, which presents two important topics for future investigation.

Further research could concentrate on some on some publicly-run (municipal) preschools to investigate if there are any differences when it comes to identification, teaching, quality of interactions, and children's preschool experiences. Further research could also explore whether there is any difference between different child-ages within preschool, or between preschool and early school years in this regard. Moreover, further research can investigate if there are more identification methods employed in the Swedish preschool context, and whether one seems more effective or is used more than others. In addition, further research on identification and teaching of gifted and talented children could pay particular attention to underachieving and under-represented groups of children with gifts and talents.

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Appendix 1. Sample interview questions

Interview Guide – Children in Preschool, Preschool class, Leisure-time centre, and Grade 1

Introductory Questions:

Tell me a little bit about yourself!

- What do you like to do for fun?
- What are you really good at?

Questions About Preschool/School:

Tell me about your preschool/school!

- What do you usually do at preschool/school?
- What kind of things do you learn there?
- What is your favourite thing about preschool/school?
- Do you and your friends work on the same things?

Imaginative and Interest-Based Questions (inspired by Renzulli's Primary Interest-A-Lyzer):

- What kinds of books do you like to look at or read?
- Imagine you are a famous author about to write your next book, what would it be about?
- Pretend your group/class is going on a trip and you are in charge of picking the place to go, where would you like to go?

Interview Guide – Preschool Teachers and Teachers in Preschool class, Leisure-time centre, and Grade 1

Background Information:

- Name
- Number of years of teaching experience
- Professional training and qualifications
- Current workplace and role

Teaching, Environmental Factors, and Didactic Choices:

Tell me about how you typically teach X?

Can you share some examples of teaching that have worked particularly well for X?

- Do you make any specific adaptations or changes in your teaching when X is present?
- How do you teach X alongside peers? (e.g., inclusive teaching)

Child's Learning and Development:

Tell me about X's learning and development progress?

- Are there any aspects of X's development that you would consider unique/different/special?
- Have you noticed anything surprising or unexpected in X's development (e.g., uneven or asynchronous development)?