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The experiences and the meaning of using MyTime in the preschool context from the perspective of children in need of special support, 5–6 years of age

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Abstract

Background: Children in need of special support often display delays in time processing ability, affecting everyday functioning. MyTime is an intervention programme for systematic training of time processing ability. To support preschool children's development of time processing ability and everyday functioning, it is necessary to include their perspectives of the MyTime intervention programme. A previous study shows that MyTime is feasible with children in the preschool setting and shows positive effects on time processing ability for older children in special schools. Yet, there is a lack of knowledge regarding how preschool children experience the intervention programme and how they understand its meaning. The aim of this study was to explore the experiences and the meaning of using MyTime from the perspective of children with informal needs of special support (INS) 5–6 years of age in the preschool context.

Methods: To explore the children's perspectives, video-recorded interviews with 21 children were analysed hermeneutically. To facilitate the interview situation with the children in need of special support, the Talking Mats© was used. Both body and spoken languages were analysed.

Results: The results reveal children as active participants, willing to share their experiences of using the MyTime intervention in the preschool context. The conceptualization of the children's experiences and expressions uncovers their meaning of using the MyTime intervention as to know and to understand time by doing.

Conclusions: When children are given the opportunity to use concrete tools to understand and measure time, they experience themselves as active participants involved and engaged in the intervention. They reveal meaningful experiences to be able to manage time that facilitate their everyday functioning and participation in the preschool context.

KEYWORDS

child development, early intervention, perceptions, preschool children, qualitative

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1 | INTRODUCTION

The preschool education in Sweden is inclusive (Nilholm et al., 2013). It is provided to all children, with or without special needs, of 1–5 years of age, and 94% of children aged 3–5 years attend preschool (SwedenStatistics, 2019). Therefore, children diagnosed with a cognitive disability or informal needs of special support (INS) are included in the same preschools as their typically developing (TD) peers. This makes preschool an arena suitable for early intervention to facilitate the development for all children's everyday functioning and especially children INS (Sylva et al., 2010). Due to the preschool's compensatory assignment for children, otherwise at risk for delayed development (Lpfö 18), children INS should particularly be considered for early interventions within the preschool context (Skolverket, 2019).

In the area of time processing ability (TPA), it is well known that children with disabilities have an increased risk of delayed TPA and daily time management that affects their everyday functioning (Abikoff et al., 2009; Janeslätt et al., 2010; Noreika et al., 2013; Smith et al., 2002). The MyTime programme was developed for systematic training of TPA in children with intellectual disability (ID). The intervention method is derived from knowledge of the development of TPA and daily time management including the finding of the need to understand the duration of activities before learning to tell time from a clock (Janeslätt et al., 2009, 2010). It is known that time-assistive devices can increase TPA and daily time management in children with disabilities aged 6–11 (Janeslätt et al., 2014).

MyTime is an example of an early intervention programme that is created to offer visual and concrete information to understand and manage time. The intervention is based on 'the quarter-hour principle' method derived from time-assistive devices (Arvidsson & Jonsson, 2006). A system of dots is used instead of numbers to concretize time duration in daily activities (Åberg, 2012). Research has shown the benefits of using MyTime to facilitate TPA, thereby promoting children's everyday functioning (Janeslätt et al., 2018; Wallin Ahlström et al., 2021).

MyTime has been evaluated in a randomized controlled trial (RCT) study including children 10–17 years of age with mild and moderate ID, showing that the intervention group increased in TPA significantly more than the control group (Janeslätt et al., 2018). A feasibility study used MyTime and found that children 5–6 years of age, both INS and TD, were involved in the intervention and appreciated understanding the duration and the timing of the activities during the preschool day. The preschool teachers experienced that MyTime facilitated the children's daily time management and everyday functioning (Wallin Ahlström et al., 2021). Yet it is not known how children in preschool, especially children INS, experience participating in the activities included in the intervention.

To support preschool children's development of TPA and everyday functioning, it is necessary to include their perspectives. Preschool children's own experiences of MyTime are of equal importance as their opportunities to take part in the intervention (Batorowicz et al., 2016) to facilitate their development of TPA. Lipponen et al. (2017) show that when children are asked about their views of

Key messages

- Preschool children INS experience it meaningful to use MyTime in the preschool context.
- From the perspective of children INS, MyTime is a tool concretizing time in relation to activities in preschool.
- MyTime gives the opportunity to manage time in preschool as described by the children INS.

meaningful moments during the preschool day, this adds a further dimension of knowledge. This knowledge can be useful to create activities in the preschool setting for the children to engage in. When providing interventions aiming to promote children's development, it is essential to explore the children's perspective and whether they find the intervention meaningful to involve and engage in. Participation is defined by WHO (2020) as involvement in a life situation and always occurs within a contextual process, e.g. what happens in preschool during an ordinary day. However, participation can also be the outcome of an intervention (Imms et al., 2016); e.g. increased TPA can facilitate children's everyday functioning (Janeslätt et al., 2014). Besides this, it is also a human right for children to participate and to make their voices heard (Convention on the Rights for Persons with Disabilities, 2006; Convention on the Rights of the Child, 1989). Therefore, the aim of this study was to explore the experiences and the meaning of using MyTime from the perspective of children INS 5–6 years of age in the preschool context.

2 | METHODOLOGY

This study has an exploratory and descriptive design and involves hermeneutical analysis. The point of departure in hermeneutics is that reality is constructed by the various perspectives of the actors who seek meaning in every encounter and situation they are in. Perspectives are developed by the actors' experiences and meaning (Ödman, 2016). In this study, the children gave voice to their experiences and the meaning of using MyTime in their preschool context as a construct of their reality (Ödman, 2016).

2.1 | Sample and data collection

Sixty-one children INS in the preschool setting were invited to take part in the study. Of those invited, 50 children and their parents gave informed consent for participation. All children had previously participated in the intervention study with MyTime. In total, 21 interviews were conducted in the study. The dropout of the 29 children was due to children declining participation at the time of the interview ($n = 3$) and because the interviews were hindered due to the COVID-19-pandemic restrictions when the interviews ($n = 12$) mainly had to be performed outdoors. Furthermore, some children INS seemed to have difficulties

due to delayed language development or understanding the interview situation and these interviews were therefore not possible to analyse ($n = 11$). Further, some were excluded due to technical issues ($n = 3$). The length of the included video recordings varied from 4 to 11 min.

The children were interviewed after they had participated in the MyTime intervention. When interviewing children, it is important to adjust the interview situation, i.e. the questions and the actual implementation, to the child's age (Kvale et al., 2014) but also to the child's maturity as the children taking part are children INS. The adjustment implied that the place for the interviews was adjusted to the individual child's needs; e.g. some children wanted to sit where they could see the other children, and some wanted their preschool teacher to attend. To facilitate the interview, the Talking Mats® method along with pictures of each part of MyTime was used to grasp the children's experiences. Talking Mats® has proved to be effective in interviews with young children and children with cognitive disabilities (Cameron & Murphy, 2002; Ferm et al., 2009). The method involves placing picture cards in one of three predetermined areas on the mat defined as 'I like this', 'I don't know, or I neither like or don't like this' and 'I don't like this'. In this way, the Talking Mats® shows the expectation of possible negative answers, which is especially important when interviewing children as the adult interviewer is in a power position (Kvale et al., 2014). Furthermore, the method helps the child to participate from his/her own perspective, have control over the process and influence the talking pace (Cameron & Murphy, 2002; Ferm et al., 2009). During the interview, the children were given a picture card representing the activity to reflect upon, followed by the question: What do you think of this? The child held the picture card and, in this way, they had the floor. This helped the interviewer avoid interrupting while the child thought of an answer and then put the picture card on the mat in one of the areas. The child could choose to begin to talk about experiences or place the card in silence. When the child was

talking, the interviewer was silent. If the child did not start to talk at all or stopped talking during the interview, the interviewer first waited in silence and then requested: 'Tell me more'. This procedure was repeated for all picture cards. At the end of the interview, the interviewer summarized the child's answers, to the child. During this phase, the interviewer pointed at the picture cards and reproduced what the child had said during the interview about the different cards. The child agreed or disagreed that the interviewer had understood them right. Some children reflected once more on their given answer and some also changed their opinion and the place for the picture card (Figure 1).

2.2 | Ethical considerations

The children, whose parents gave their informed consent for their child to participate in a video-recorded interview, were asked to participate in this study at the same time as they gave informed consent for their child to be a part of the intervention study MyTime. The children were informed and then gave consent to participate in a video-recorded interview and those who consented signed a written form including a picture. The children were asked for consent in close connection for the time of the interview. The study was approved by the Regional Ethical Review Board of Uppsala (Dnr 2015/451). To adhere to ethical approval, both of the child's parents gave written consent.

2.3 | Analysis

In hermeneutics, every new situation is interpreted with the use of our preunderstandings, which constantly change over time with new experiences. In this way, the interpreting process is always conducted

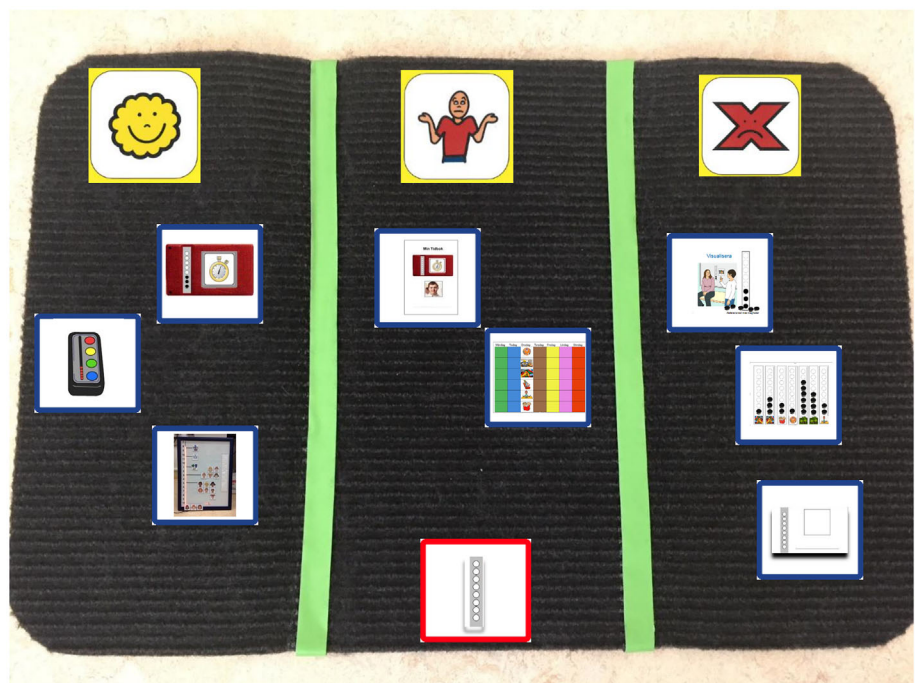


FIGURE 1 Talking Mats® used with picture cards showing the different parts of the MyTime intervention.

to give meaning at a certain time (Ödman, 2016). The first and last authors who conducted the analysis used their different preunderstandings during the process. The first author is an occupational therapist with extensive experience with children INS, trained in the Talking Mats© method, and in using picture support and sign language as alternative and complementary communication (in Swedish TAKK) at a Child and Youth Habilitation Centre. The last author is a public health nurse with experience in the primary child health care service and a researcher in the field of children and participation.

The inductive analysis began with the first author watching all video-recorded interviews in their entirety several times to gain an initial understanding of the data (Ödman, 2016). Then, the interviews were transcribed verbatim, which included both the children's talk and bodily expressions. The transcripts were read in their entirety several times to deepen the understanding of the data. After this, a description of each child's expressions and spoken language was written to capture an overall sense of each child's interview. The descriptions were verified by altering between watching the video recording and reading the transcript and then reading the description again. This was a process between de-contextualization and re-contextualization as it included small changes and additions to both the transcript and descriptions as the interpretation process went on. At the same time, regarding the transcripts, the following questions were asked: What experiences do the children express? How can these experiences be understood as meaningful to them? This procedure and these questions made it possible to discover variations and recurrent experiences and meanings of using MyTime among the children and also provided confirmation of those (Ödman, 2016). Thereafter, the children's experiences and expressed meaning were abstracted from the descriptions, and similar experiences and meanings were grouped together. The abstractions were then conceptualized into 'to know what's going to

happen when and in what order by using tools' and 'to measure time to know the time duration of activities'. This process made it possible to construct a whole of the children's experiences and the meaning of using MyTime conceptualized as 'to know and to understand time by doing' (Figure 2). The first author made a preliminary analysis of each step in the process, which was critically reviewed by and discussed with the fourth author to reach trustworthy interpretations. The analysis process went on back and forth between the first and fourth authors. In the final stage, all authors were included to discuss the analysis before the final results were reached. In this way, the understanding redefined itself towards broadness and specification (Ödman, 2016).

3 | RESULTS

The results reveal children as active participants, willing to share their experiences of using the MyTime intervention in the preschool context. The conceptualization of the children's experiences and expressions reveals their meaning of using the MyTime intervention as to know and to understand time by doing.

3.1 | To know and to understand time by doing

That the children know and understand time by doing appears from what they say. They say that they know and understand the rules of the procedure of working with MyTime. The children describe the stages of the procedure as to measure the duration of an activity, fill in the timecard after measuring the activity outside of the preschool, put magnets on the reference shred and finally write in the timebook.

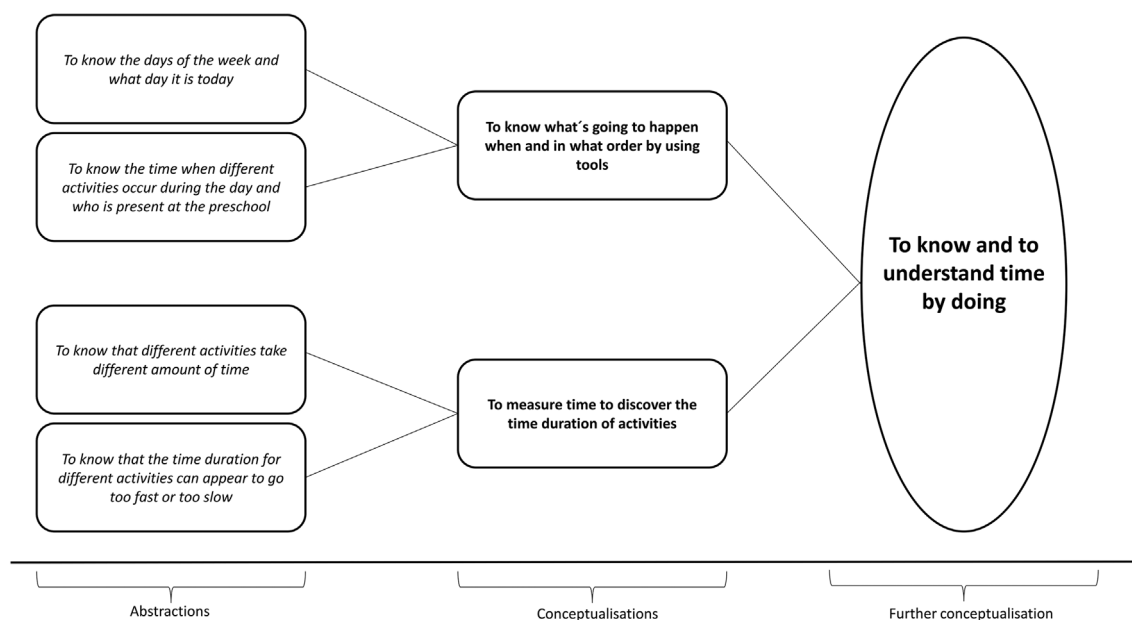


FIGURE 2 The analysis process grouped by experiences and how the children had these experiences, conceptualized as to know and to understand time by doing.

The children know how many measurements a timebook can contain and how many they have left before they can have a new timebook. What they say also reveals that they have understood the similarities between the different tools and that time has different dimensions that resemble each other. The children's way to learn about time can be understood as a process through their detailed descriptions of carrying out a measurement to filling in the timebook but also by their descriptions of sometimes forgetting parts of the procedure. It can also be to forget what activity they measured, which children were present when the measurement took place or what day it is.

3.2 | To know what's going to happen when and in what order by using tools

The children know what's going to happen when and in what order by using the tools in MyTime. This can be described as that they *know the days of the week and what day it is today* and they *know the time when different activities occur during the day and who is present at the preschool*. These experiences may be interpreted to mean the children learn that there is an order in time, a certain time when different activities occur during the preschool day and who is present or absent.

The children's experiences of *knowing the days of the week and what day it is today* appear from what they say about how they use the tool weekly schedule. They say that they change the day on the weekly schedule by moving activity pictures from yesterday to today. One child says the following about the weekly schedule: *'Oh, I like it, one can choose what day.'* In this way, the children learn that there is an order in time.

The children's experiences of *knowing the time when different activities occur during the day and who is present at the preschool* appear from what they say about how they use the tools weekly schedule and whiteboard clock. They say that, during the planning of the day, they express their opinions on activities that are going to occur and that they understand what is going to happen during the day. They say that they know when they will eat lunch or at what time they will go home. Furthermore, the children say that they know at what time they will go home because they put a picture of themselves beside the dot (time) when it is time to go home: *The child smiles, put the arms over the head and says: 'Because we are allowed to, eh, eh, put our pictures when we go home and today I go home at four o'clock.'* They say that without the picture, they do not know at what time they will be picked up. The children's experiences of knowing who is present at preschool appear from them saying that pictures of children and teaching staff are placed on the whiteboard clock at the bottom of the frame when they are not present in preschool.

That the children know what's going to happen when and in what order when using tools can be interpreted to mean they can overview and check the time with these tools. That this is meaningful for them is expressed by what they say. The children say that it is fun and good to know when they will go home from preschool. That it is meaningful to use the tools is also shown in their bodily expressions when they smile, reach out quickly for the pictures of the tools and place them in

the area 'happy'. This is also further strengthened by them saying that they want to use the same tools at home: *'That, that, that, one could have pictures as big as these pictures that one was allowed to take home and then bring them back to preschool again.'* At the same time, there are children that smile in recognition but say that the weekly schedule was not meaningful to them. They say that they did not really like it, e.g. that they did not like the colours, or they frown when they receive the picture of the tool. Further experiences that contradict the possibility of meaningfulness are expressed when children say that they do not recognize the tool or that it is boring because the tool is wrongly placed in the preschool: *'Because, we only have it in the hall and look at the days when we are going out.'*

3.3 | To measure time to discover the time duration of activities

The children measure time to discover the time duration of different activities. Thus, it can be said that they *know that different activities take different amounts of time* and *know that the time duration for different activities can appear to be too short or too long*. These experiences can be interpreted to mean that the children learn that time duration differs and that they are placed in time that moves forward. It is not possible to influence the time, to speed it up or to make it stand still.

The children's experiences that they *know that different activities take different amounts of time* can be described as to start and stop a measurement of an activity. One child describes the experience of stopping a measurement by taking out the time measure card:

- C:: - I like it.
I:: - You like it?
C:: Nod and says: - Yes, I have turned it off.
I:: You turned it off, did you end the measurement?
C:: Mm.
I:: - Was that good?
C:: Nod.

It can also be described as that the children know when it is time to change activity, e.g. go to another room at preschool or take turns in an activity with another child. A child looks down at the picture of the tool time log that is held in the hand and says:

- C:: - We take turns with the Ipad here. The child lifts the left arm and points with the finger at the wall heading towards the preschool unit and at the same time looks at the interviewer.
I:: - You take turns using the Ipad here at preschool?
C:: - Mm, we only have two Ipads. The child looks down on the time log that he/she is holding in the hand and then looks up at the interviewer again.
I:: - Ok, you have two Ipads and then you have used the time log.

- C:: - Mm, looks at the interviewer and twists the head a bit to the left.
- I:: - Did you use it to do something else?
- C:: - No, you use it to take turns if anyone else wants it (the iPad).

The children also describe a ranked order when saying that it is more important to know how much time is left in an activity than to know the order of all activities during the day and when it is time to change activity. One child says that he pushes different coloured buttons to receive different amounts of time. The child leans over the Talking Mats® on the table and puts the hand on the picture of the time log and says: *'If you push this, eh, eh, you have all dots (points at the red button on the time log for 20 minutes), if you push this (points at the yellow button for 15 minutes) there will be some dots on the yellow button, if you push this button (points at the green button for 10 minutes) there will be like this many dots and if you push this button (points at the green button for 5 minutes) there will also be some dots.'*

The children's experiences that *the time duration for different activities can appear to be too short or too long* can be described as that the children say that they think the time moves too fast or too slow when they use the time log and the whiteboard clock. One child says that the time on the tool moves too fast: *'Because it moves, it moves so very fast.'* Another child says that the tools show too many dots. The child shows and says: *'And besides it (the time) is like this long (stretch out the arms to the sides).'* Another child says: *'I thought there were too many dots.'*

The reactions of the children when they measure time duration in different activities can be interpreted as the time measuring is meaningful to them as they describe it in detail and points at the 'happy picture' of the Talking Mats®. It could also be interpreted as meaningful to them when they point at the picture of the tool and say that it is good and place the picture of the tool in the 'happy' area on the mat and say that they think that the tool should be used at the preschool. There are also children that have the experience that it is boring, which can be interpreted to mean that it is not meaningful for the child. This is expressed when the children place the picture in the area for 'boring' on the Talking Mats®, point at the picture of the sad face frowning and say: *'Because that one is sad.'* It is also indicated when the children are shaking their heads and say that they think it is difficult or when they are serious and say that the tool is only permitted to be used by the adults.

4 | DISCUSSION

In this study, the experiences and the meaning of using MyTime from the perspective of children INS 5–6 years of age are explored and conceptualized as to know and to understand time by doing. Time, and the fact that time is passing, is an abstract phenomenon as it is hard to grasp and examine through the human senses (Åberg, 2012). However, the findings in this study indicate that time may become more concrete by using the MyTime intervention. The children in this

study describe how they work with and manage time in the preschool context together with adults and peers and using the tools in MyTime. The children's descriptions correspond to a situated cooperative learning process and the zone of proximal development where learning takes place (Vygotskij, 2001). The various tools in MyTime help the children manage time in a way they are not yet able to on their own, but with a competent other, another child or an adult they can. This is further described in a recent study, in which teachers described MyTime as an educational tool that made time visible and understandable for both preschool children INS and TD (Wallin Ahlström et al., 2021). The children in the present study experience that they know what is going to happen. They describe that they measure time to understand the duration of activities, which indicates that they know about both time perception and time orientation. Understanding time is the basis for the ability to manage time (Janeslätt et al., 2008, 2009, 2018) and can affect the children's everyday functioning in preschool and further school adjustment.

The key components in MyTime that made time understandable might be the use of visual tools to measure time instead of using numbers (Åberg, 2012). The ability to read and fully use a clock is not yet developed in children INS 5–6 years or their TD peers (Janeslätt et al., 2010). Ordinal clocks with numbers are more abstract than the use of dots to show time duration (Åberg, 2012). The children's experiences in the present study reveal that the system of dots helps them understand the dimensions of time. Similar results were also found in a previous study including preschool children INS and TD (Wallin Ahlström et al., 2021). The different time tools combined with picture schedules in MyTime showed that knowing the order of the activities during the preschool day helped the children to understand and manage time. These findings correspond with the results from other studies that used time tools and schedules (Janeslätt et al., 2014). Grey et al. (2009) show that combining a time tool with a picture indicating waiting increased appropriate waiting behaviour. Furthermore, Knight et al. (2014) show that visual activity schedules had positive effects on on-task behaviour, decreased need for prompting, improvement of correct task and schedule completion steps and also improved transition behaviour in children with autism spectrum disorder.

The children in the present study describe their experience of MyTime and its various tools as meaningful. Such knowledge is valuable to be able to meet children's needs as experiences of meaning and provided opportunities are integrated (Batorowicz et al., 2016) and probably affect the children's further development of TPA. Furthermore, the children's descriptions show the meaningfulness of being involved and engaged in the whole process of MyTime. It also shows the importance for children to understand and know more detailed issues as when to go home or take turns in activities. In this way, the MyTime intervention starts as a process of participation and ends as a participation outcome (Imms et al., 2016). This suggests that the intervention both encourages and facilitates the children's participation and that they learn to manage time. However, the results also show that MyTime is meaningful for the children to be involved in as long as they are allowed to use the tools on their own premises and have them in sight. These experiences of meaningfulness show the

children as active participants and highlight their desire for participation (WHO, 2020).

This study deepens the earlier knowledge that children need to understand the duration of activities and daily activities' temporal order before they learn to read and understand a clock (Janeslätt et al., 2009, 2010). The exploration of children's own experiences and meanings of how important it is for them to understand time by doing can contribute to further developing and integrating the MyTime intervention for use in the preschool context. This is particularly important for children INS as earlier research has shown that these children may be 1–3 years behind their TD peers in TPA (Janeslätt et al., 2010). The children's experiences of using MyTime can contribute to fulfilling the mission for children, otherwise at risk for negative development (Lpfö 18), and particularly children INS that should be considered for early intervention within the preschool context (Skolverket, 2019).

In this study, trustworthiness was based on combining the use of Talking Mats® during the video-recorded interviews and the first and last authors' preunderstandings. Interviewing preschool children INS is a challenge and often results in sparse data per child. Also, the limited verbal skills of many of the preschool children INS in this study entailed a challenge in knowing whether the data reflected their true experiences and meanings. These issues were addressed using a well-evaluated method, Talking Mats®. It seemed like the use of Talking Mats® made the interview questions understandable to the children. It also seemed to help the children to keep the question in mind while they thought of their answer. The children reflected on the response alternatives before deciding, supporting the trustworthiness of the data. Furthermore, the bunch of cards that decreased during the interview may have helped the children to stay focused and to manage time, as this indicated the time left in the interview. The use of the Talking Mats® method was also an ethical consideration as it emphasized the comfort of the child during the interview.

The first and last authors used their different perspectives and preunderstandings together to understand the children's experiences and their meaning. Their preunderstandings also developed during the analysis process. This process contributed to and influenced the exploration of the children's experiences. To gain credibility, the authors also performed de-contextualization and re-contextualization processes that verified the data during the analysis. Moreover, the first and last authors also continuously asked the question: Is this a credible interpretation? In addition, the credibility of the interpretations was further strengthened by the author group who had extended experiences of conducting research with children. The interpretations of the children's meaningful experiences are clarified from our angle as to know and to understand time by doing. Still, other authors with different preunderstandings might have other interpretations. This study included interviews from 21 children INS and interviews from 29 children INS were not performed or not included in analysis. Interviews for ($n = 15$) children were not performed as 3 declined to participate at the time for the interview, 12 interviews were not possible to perform due to the COVID-19-pandemic restrictions and 3 interviews were lost due to technical issues. Interviews from ($n = 11$) children INS were excluded

from analysis as they seemed to have difficulties due to delayed language development or understanding the interview situation. In hermeneutics, it is recommended to include interviews from around 15 to 25 participants to gain a variety in the data (Kvale et al., 2014). We asked all children who participated in the intervention study to participate also in the interview for this study as interviewing children and especially children INS was considered to give spare data material per child. It is possible that children, not included, had experiences of the intervention that differed from those included in analysis. Still, the results from this study are in line with an earlier study also interviewing the preschool children using the MyTime intervention (Wallin Ahlström et al., 2021).

A limitation in this study might be that the children were interviewed after, but on the same day, they were assessed for another related study concerning the same intervention. Possibly, they were tired when the interview started; still, they were offered a break before the interview if they wanted it. Also, to conduct the interview close to the assessment could help the child to be on track of the subject of the interview. Another limitation is that it might be the children who experience the intervention as meaningful were those who accepted participation. Yet, the results also show that the children who actually participated in the study experience situations that are less meaningful, e.g. in the category: to know what's going to happen when and in what order by using tools. This indicates that the participating children did not choose their participation in interviews based on their perceptions of meaningfulness.

It is reasonable that the results of this study may be transferred to other contexts where preschool children participate in everyday situations, e.g. at home or in leisure activities. Also, the experiences of meaningfulness may be transferable to TD children in preschool as described (Wallin Ahlström et al., 2021). Further, it might be that this intervention is likely to be relevant for an international general audience in time-dependent societies.

When children are given the opportunity to use concrete tools to understand and measure time, they experience themselves as active participants who are involved and engaged in the intervention. They also reveal meaningful experiences to be able to manage time that facilitate their everyday functioning and participation in the preschool context. To understand the children's perspective of MyTime as a method concretizing time in relation to activities can help preschool teachers, occupational therapists and other health care professionals as well as parents to support the children in developing abilities in TPA that are useful for their everyday functioning.

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CONFLICT OF INTEREST STATEMENT

The authors report no conflict of interest.

DATA AVAILABILITY STATEMENT

The data are solely available for this study.

ETHICS STATEMENT

This study was approved by the Regional Ethical Review Board of Uppsala (Dnr 2015/451). To adhere to ethical approval, both the children and their parents gave written consent for participation.

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