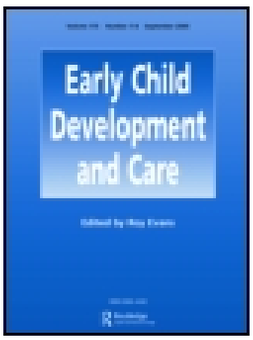

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Pekka Mertala

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What, where, when and how: Finnish children's perceptions of learning in preschool

Pekka Mertala

Faculty of Education and Psychology, University of Jyväskylä, Jyväskylä, Finland

ABSTRACT

To be able to support young children in learning to learn—an ability that requires adapting often-unprecedented changes in society—teachers need to be aware of the ways in which children understand learning. In this qualitative study, 177 micro-interviews conducted with 41 Finnish children were analysed using an abductive method to understand their perceptions of learning in a preschool. Learning was perceived as learning to do or know things. Academic skills and contents, followed by motoric skills and sports, arts and crafts, socio-emotional skills and everyday skills, were mentioned as the learning contents. In addition, intentional teaching, teacher-initiated exercises, practising, cognitive engagement, casual observation, failures and accidents were mentioned as the enablers of learning. Implications for pedagogy and future research are discussed.

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Learning; perceptions; preschool; education; children

Introduction

If someone asks me to comprise the essence of the contemporary educational landscape in one word, my choice would be learning. Here, I build on Biesta's (2015) argument about the 'learnification' of educational discourse and practice, which is

> evident in a number of discursive shifts, such as the tendency to refer to pupils, students, children and even adults as 'learners'; to redefine teaching as 'facilitating learning', 'creating learning opportunities', or 'delivering learning experiences'; or to talk about the school as a 'learning environment' or 'place for learning' (2015, p. 76).

While the learning-dominant discourse incurs its own problems[1], learning itself is important. Popular competence-based educational frameworks, such as the twenty-first century skills (Trilling & Fadel, 2009), have indicated that success in working life and society requires an ability to adapt to often-unprecedented changes and demands. This ability is commonly referred to as the skill of learning to learn (e.g. Hotulainen, Vinni-Laakso, & Kupiainen, 2020; Leat, Thomas, & Reid, 2012; Trilling & Fadel, 2009). Learning to learn is not something that children are expected to master by themsleves but is included as an objective in various national curricula (e.g. Leat et al., 2012; Moreno & Martín, 2007), including preschool education[2] in Finland (Finnish National Agency for Education [FNAfE], 2014)—which forms the empirical context of the present study.

To support young children in learning to learn, teachers need to be aware of children's initial perceptions of learning because incorrect beliefs about children's competences and knowledge can lead to pedagogically unsound practices (see Mertala, 2020). Young children seem to conceptualize

CONTACT Pekka Mertala pekka.o.mertala@jyu.fi Faculty of Education and Psychology, University of Jyväskylä, Alvar Aallon katu 9, 40600, Jyväskylä, Finland

learning differently than older children or adults (Sobel, Li, & Corriveau, 2007). For instance, the Taiwanese preschoolers in Hsin et al.'s (2019) study affiliated learning with social, informal and playful activities significantly more often than first or third graders. Explaining this difference with age alone would be a simplistic answer. As learning perceptions are deeply context-based, the variation in children's perceptions more likely reflects the different pedagogical cultures and traditions of preschools and primary schools (Brostöm, 1998; Hsin et al., 2019; Pramling, 1988; Sandberg et al., 2017). In other words, the ways in which learning is framed in a preschool play a significant role in how children perceive and conceptualize learning.

The present paper uses open-ended interview data that present the daily learning experiences of 41 Finnish preschoolers to contribute to developing our understanding of children's perceptions of learning in a preschool. The following research questions are addressed in this paper.

- What do children describe learning as?
- What do children describe they learn in a preschool?
- Where and when do children describe their learning to occur during preschool?
- What do children describe as the factors that enable them to learn in preschool?

Background

Children's perceptions of learning

The word 'learning' can refer to a wide range of phenomena (Biesta, 2015). Much of the research on young children's learning perceptions has addressed the topics of *what* can be learned, *how* people learn things and *where* and *when* learning occurs (e.g. Hsin et al., 2019; Pramling, 1988; Sandberg et al., 2017). The question of *what* refers to the contents of learning. Pramling (1988) divided the 'whats' of learning into three categories: *learning to do*, *learning to know* and *learning to understand*. *Learning to do* refers to mastering actions and tasks one has not been able to conduct earlier. These actions can be physical (i.e. learning to ride a bike) or cognitive (i.e. learning how to count). *Learning to know* refers to gaining knowledge about something in the world that can be told to others (Pramling, 1988). An example is the realization that Spinosaurus was the biggest carnivore among all dinosaurs.[3] The content of knowledge can also be more abstract and include knowledge about rules and values (Sandberg et al., 2017). In contrast, *learning to understand* refers to a more fundamental comprehension and thus differs from *learning to know* (Pramling, 1988). For example, a child can know that there are certain rules in the kindergarten (i.e. children are not allowed to climb the slide up), but they do not understand the reason behind the rules (i.e. insurance does not cover accidents caused by 'improper' use of outdoor play equipment).

For the question of how learning happens, Pramling (1988) classified the perceptions into two categories. The first is external influence, which refers to situations where other people play a crucial role in enabling children to learn. Often, this influence takes form as intentional instructions. Children have mentioned listening and following teachers' instructions as a meaningful attribute in succeeding in various tasks (Daniels, Kalkman, & McCombs, 2001; Hsieh & Tsai, 2018; Mykkänen, Määttä, & Järvelä, 2016; Sandberg et al., 2017). Moreover, they have reported that, besides adults, they learn much from their peers during various interactions, such as playing together (Hsieh & Tsai, 2018; Sandberg et al., 2017; Sobel et al., 2007). Meanwhile, the influence of others can also be unintended. For example, the children in Mertala's (2019) study indicated that they learn about digital technologies by casually observing their parents' and siblings' technology use, without any intentional teaching or modelling. Similarly, the children in Sobel et al.'s (2007) study expressed that babies learn how to talk because people around them talk.

The second 'how' introduced by Pramling (1988) refers to learning through personal experiences. This dimension is perhaps the most obvious regarding the category of *learning to do things*, as one simply cannot learn how to ride a bike without eventually jumping on the saddle. In fact, children

have highlighted the importance of intentional practice and training for achieving new skills (Mykkänen et al., 2016; Sandberg et al., 2017). Some children have also emphasized the importance of cognitive engagement, such as paying attention, concentration and focusing, for learning new things (Daniels et al., 2001; Mykkänen et al., 2016; Sobel et al., 2007). The different 'hows' of learning are not mutually exclusive but can often occur simultaneously. Let us take the previously mentioned biking example. While learning to ride a bike requires both physical (on the bike) and cognitive (concentration) efforts from the child, the learning process also typically includes help and advice from a parent.

Preschool as a learning environment

The second major theme in research has been whether and how children's learning perceptions are related to the educational culture of the study context (Brostöm, 1998; Daniels et al., 2001; Hsieh & Tsai, 2018; Li, 2004). Preschool education is not universally alike, with the policies, systems, regulations and pedagogical principles varying among different countries (Bertram & Pascal, 2016). Brostöm (1998) identified that the development of the learning concepts of children from American kindergartens was at a more advanced stage than that of their Danish age-mates. According to Broström, the school-like American kindergarten, where most activities were initiated by the teachers, seemed to stimulate the development of learning concepts, in that the children had moved beyond the scope of the concept of learning as 'doing' and had already developed the more elaborated concepts of learning as knowledge and understanding. In addition, Li (2004) identified that Chinese and American children had different learning perceptions.

More recent results from Sweden (Sandberg et al., 2017) have indicated that the children in Nordic preschools learn a lot but do not see and articulate this specifically as learning in the conceptual sense. For the children, learning is embedded in the practice of everyday life in preschools, which arguably makes learning situations difficult to distinguish. This notion is supported by Einarsdóttir's (2014) findings in Icelandic settings. The preschoolers in their study could recognize and verbalize various situations where the teachers supported their learning by helping them with everyday tasks they could not yet master on their own (Einarsdóttir, 2014); however, these situations were not necessarily conceptualized explicitly as learning by the children. These notions reflect the social pedagogical tradition of Nordic preschool pedagogy, which encourages play, relationship, curiosity and the desire for meaning-making based on activities that value both children and educators in a co-constructing environment (Karila, 2012).

Learning to learn in Finnish preschool education

While Finnish preschools exhibit notable resemblance to Nordic preschools, they have their own unique historical, political, cultural and economic conditions (Karila, 2012). In the Finnish context, a preschool refers to the last year before the children enter primary education. Typically, children start preschool at the age of six.[4] Approximately 99% of the children participate in preschool education (Kinos & Palonen, 2013), which is free of charge and steered by its own national curricular guidelines (FNAfE, 2014). Preschool teachers have a teaching degree either in early childhood education (ECE) or basic education (Regulation on the qualification requirements for teaching staff, 1998), and preschool education can be provided either in a kindergarten, school or any other suitable location (Ministry of Education and Culture [MoEC], n.d.), where kindergarten is the most prominent setting (Kinos & Palonen, 2013). The yearly minimum duration of preschool education is 700 hours (MoEC, n.d.), which is approximately four hours a day (FNAfE, n.d.). If preschoolers require additional ECE hours beyond preschool time, they can attend either part-time ECE in a kindergarten (MoEC, n.d.) or a non-regulated club activity (City of Tampere, n.d.), depending on the policy of the municipality.

The now-efficient Finnish core curriculum for preschool education was published in 2014 as part of a comprehensive curricular reform in which the core curricula of ECE, preschool, basic education and upper secondary education were all updated. Each of the core curricula drew on a competence-based view of education (Palsa & Mertala, 2019); consequently, learning to learn is a major theme included in these curricula. The objective of preschool education, for example, is stated 'to encourage and help children develop their thinking and learning skills and strengthen children's confidence in their own skills' (FNAfE, 2014, pp. 16–17). Thinking and learning are also named as one of the six transversal competences that are supported throughout preschool education (FNAfE, 2014). The core curriculum also offers several instructions on how children's learning skills are best supported. Alongside digital environments, the use of versatile learning environments—such as 'outdoor and indoor spaces, nearby nature and the built environment'—as well as the use of versatile materials and methods—including music, drama, games, inquiry-based activities and embodied practices—is recommended (FNAfE, 2014, pp. 16–17). Play, in its various forms, is explicitly mentioned as an important oasis for learning (FNAfE, 2014, p. 17), which also highlights how in the Finnish context, both formal teacher-initiated and informal activities are understood as equally important learning experiences for children (Venninen, Leinonen, Lipponen, & Ojala, 2014). Another defining feature of Finnish preschool education is integrative pedagogy (FNAfE, 2014, pp. 30–31, 53). It means that instead of teaching children fixed stand-alone subjects, different phenomena need to be approached in a holistic manner in which various disciplines are studied simultaneously. Different disciplines are classified under five learning entities to help educators identify how they are related to each other (FNAfE, 2014, pp. 53–54). Figure 1 summarizes the learning-related principles in the core curriculum.

Methods

In previous research, children were typically asked to draw and/or explain things they had learned in some part of their life course either in or outside a preschool (e.g. Hsieh & Tsai, 2018; Hsin et al., 2019; Sandberg et al., 2017). The wordings used in the instructions can play a notable role in shaping the data. For example, in Hsin et al.'s (2019) study, children were instructed to 'draw a picture about doing things that you think you are learning. You can think about things that you did recently at home, outdoors, or in school' (2019, p. 129), which explicitly frames learning as *learning to do*. As

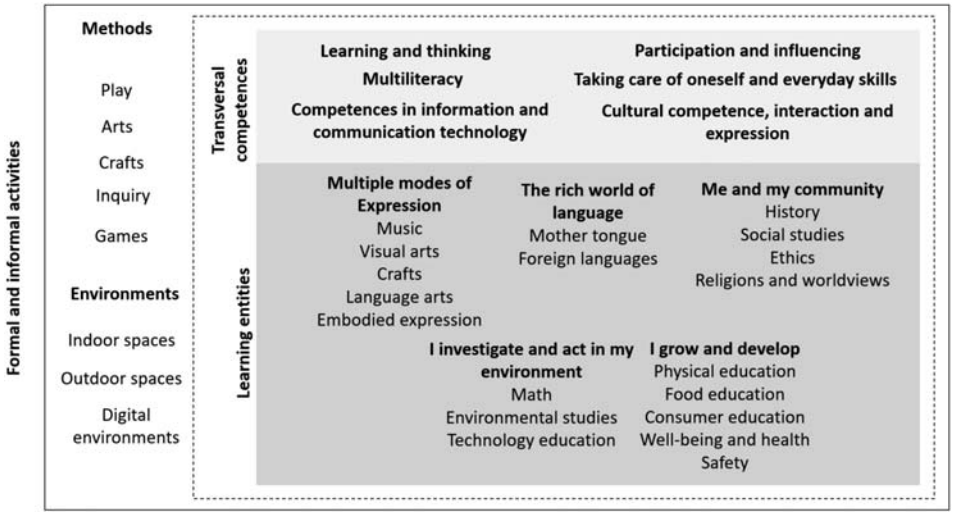

Figure 1. Learning-related principles in the Finnish core curriculum for preschool education.

outlined in the following sections, the present study opted for a more open-ended mode of inquiry, which can complement the knowledge provided by previous research.

Data

The data used in this study comprised 177 micro-interviews conducted with 41 children (21 girls and 20 boys). All participants were six years old. Of these, 26 children participated in preschool education in kindergarten and 15 in school premises. The data were collected in January 2015 by 20 second-year early childhood preservice teachers during the second half of their two-week-long preschool teaching practicum. Written consent was obtained from the guardians of the children (Finnish National Board of Research Integrity [FNBoRI], 2019). Oral consent was obtained from the children and renewed in each round of the micro-interviews (FNBoRI, 2019). Codes are used instead of names whren reporting the findings to protect the children's anonymity.

The prefix 'micro' refers to a protocol in which interviews are short and occur in the fleeting moments of everyday life in preschools. The micro-interviews were conducted with the purpose of asking the children about the things they had learned and/or succeeded on that day. The concepts 'do', 'know' or 'understand' were not used to steer children's answers. The children were also asked about the factors that had led them to learning and/or succeeding. Children's narratives were written down on an interview sheet alongside the basic background information (e.g. the child's name and date of the interview).

The decision to connote learning with positive experiences, namely succeeding, was made based on the principle that the research conducted within institutional education should respect the pedagogical culture of the context (Mertala, 2021), and the Finnish core curriculum emphasizes the importance of joy and positive experiences in learning (FNAfE, 2014, pp. 16–17). However, this choice may prevent the children from addressing learning experiences that are not positive (e.g. learning through failure; Hilppö & Stevens, 2020). The decision to conduct the interviews in the second week of the teaching practicum was made based on an ethical premise that the children and preservice teachers would be more familiar with each other at that stage, which would enable the children to express their views more freely (Punch, 2002).

Analysis

The analysis followed the principles of abductive reasoning, where the researcher moves between inductive and deductive reasoning (Suddaby, 2006). While the interpretations made stay close to the data, the role and influence of previous research and contextual factors are acknowledged by treating them as theoretical threads that guide the questions asked from the data (Grönfors, 2011). For example, the Finnish core curriculum underlines that learning occurs through children's interactions with people and the environment regardless of whether they are teacher-intended or not (FNAfE, 2014; Venninen et al., 2014). These notions were formulated into an analytical query to identify the temporal (when) and spatial (where) aspects of children's answers. Previous research (e.g. Hsin et al., 2019; Mykkänen et al., 2016; Pramling, 1988; Sandberg et al., 2017) also provided initial analytical lenses to explore the 'whats' and 'hows' of learning from the data. However, given the variation in time (cf. Pramling, 1988), geographical context (cf. Hsin et al., 2019) and children's age (cf. Mykkänen et al., 2016) between previous research and the current study, previous research was not relied on in a purely deductive manner.

The questions asked from the data are summarized in Table 1, which also presents information regarding the theoretical thread guiding the analysis, some examples of the data and the interpretations made from the extracts. After the initial coding and categorization, a more fine-grained analysis was conducted. For instance, the data extracts discussing the learning contents were divided into various subcategories (i.e. academic, arts and crafts and socio-emotional skills) based on the information available in the extract. A similar protocol was followed for all other analytical inquiries,

Table 1. Examples of the analysis process.

	Analytical query	Theoretical thread	Data example	Interpretation	Categories
What is learning	What the children expressed they learned in a preschool	Learning as doing, knowing and understanding (Pramling, 1988)	I learned how to build a snowman and a snow castle (Child#27)	Learning to do: the child reports a concrete thing he has learned to master (e.g. building artifacts from snow)	Learning to do; Learning to know[a]
Contents of learning	What the children expressed they learned in a preschool regarding content learning	Transversal competences and learning entities outlined in the core curriculum (FNAfE, 2014)	I learned to come inside when I am told so. I learned it because I talked about it with our teacher (Child#20)	Everyday skills: skills that are required in repetitious everyday situations	Academic skills and knowledge; Motoric skills and sports; Arts and crafts; Socio-emotional skills; Everyday skills
Contexts of learning	Where and when the learning occurs	Preschoolers connote learn with informal and playful activities (Hsin et al., 2019); Finnish preschool education values both teacher-initiated and informal activities in children's learning as well the use of versatile environments (FNAfE, 2014)	I learned to play new things in the yard. We played horses (Child#30)	The reported learning occurred outdoors but within the preschool context, as well as during an informal activity	Formal activities; Informal activities; Indoors; Outdoors; In preschool context; In context other than preschool
Enablers of learning	What makes learning possible for children	Teachers' intentional influence (e.g. Hsieh & Tsai, 2018; Mykkänen et al., 2016; Sandberg et al., 2017), peers' influence (e.g. Hsieh & Tsai, 2018; Sandberg et al., 2017; Sobel et al., 2007), observation of others (Mertala, 2019), cognitive engagement (Mykkänen et al., 2016)	I learned how to draw [the letter] A correctly. First, you have to make a tent and then the line in the middle. Our teacher guided me (Child#33)	Intentional teaching as an enabler of learning: the teacher instructs the child how the letter A is drawn	Intentional teaching; Teacher-initiated exercises; Practising; Cognitive engagement; Observations; Failures; Accidents

[a]Examples of learning to understand were not found from the data

and the categories formed during this phase are included in Table 1. Finally, frequency counts were conducted to identify the absolute and relative distribution of the different themes in order to understand the most common types of learning experiences.

Findings and discussion

The findings of this study are presented in the following four subsections with respect to four research questions. The first subsection answers the question of what learning is. The second subsection presents the findings for what can be learned in a preschool. After that, findings related to the questions of where and when the children reported their learning to occur are outlined. The fourth subsection introduces the findings related to children's perceptions of the factors that have enabled their learning in a preschool.

What learning is?

In the collected interview data, *learning as doing* was mentioned 164 times and *learning as knowing* was mentioned 73 times. However, examples of *learning to understand* were not found, which can be explained by the profundity and complexity of what understanding is described as by Pramling (1988), who provided the theoretical thread for this part of the analysis. The relative distribution among the three forms of learning is roughly similar to that observed in Pramling's (1988) study.

Through a more data-driven analysis, two additional forms of perception were identified: learning as succeeding in novel things ($n = 34$) and learning to master an already existing skill ($n = 32$). These categories are not mutually exclusive with those proposed by Pramling (1988). Instead, they add conceptual precision as they provide a more fine-grained understanding of how children perceive what learning to do, know and understand can be about. Let us take the following data extracts as an example.

> Seriation was a new thing. I succeeded in seriation and doing different kinds of series. I learned what seriation means. (Child#7)

> I learned to read a bit faster than I have done before. (Child#33)

In the first extract, a child tells that even though seriation—an idea that number systems follow an order that reflects the relative size or number of objects—was a new topic for them, they succeeded in the tasks (learning as succeeding in novel experiences). They learnt how different seriations and series are performed in practice (learn to do) as well as to comprehend the principles of seriation—at least in a rudimentary manner (learning to know). In the second extract, a child reports that they learnt to master reading more fluidly than before (learning to master an existing skill better/learning to do).

What is learned in preschool?

The question 'what is learned in a preschool' is addressed by reporting the spectrum of things and skills the children reported to have learned in the preschool. The data were classified into five categories: academic skills and knowledge, motoric skills and sports, arts and crafts, socio-emotional skills and everyday skills.

From the data, 86 references to the learning of ***academic skills and knowledge*** were identified, of which 36 were related to literacy, 39 were related to mathematics, 14 were related to environmental studies and 1 was related to English. Six references could not be located within any particular domain. References to literacy included learning to identify and draw letters, hyphenate words, identify rhymes, compose stories and learn to read. The following extracts provide concrete examples of these themes: 'I learned how the letter R is done' (Child#26) and 'I learned how to tell a tale' (Child#21). References to mathematics included learning how to draw numbers, count things and objects, master clock and use mathematical concepts. The following extracts provide concrete examples of these themes: 'Today, I learnt how to draw the number nine' (Child#19), 'I learned things about clock' (Child#36) and 'I learned numbers at preschool' (Child#39). References to environmental studies mainly included examples of how animals hibernate: 'I learned that it has a protective color. The bunny, I mean' (Child#12). However, other phenomena were also mentioned: 'I learned that there are lightings when it thunders' (Child#13).

In addition, 51 references to learning ***motoric skills and sports*** were identified from the data. For instance, 'I learnt skating and how to brake' (Child#23); 'I learned to play indoor bandy. I haven't played it before' (Child#13) and 'I learned new dance moves' (Child#10). Additionally, 41 references were made to learning ***arts and crafts***. As the following extracts show, these references included experiences from crafts, visual arts and music: 'I learned how to make a mask' (Child#27) and 'I learned a new song in the singing class' (Child#17). Learning of ***everyday skills*** (n = 23) refers to a mixed set of skills one needs to learn in order to manage everyday situations, including independent

eating, tolerance of boredom and following common rules: 'I needed to wait. It went well' (Child#40) and 'I learnt how to spread butter on bread' (Child#11). Finally, ***socio-emotional skills***, such as pro-social behaviour and emotion regulation, were mentioned 16 times in the data. One child, for instance, said, 'I have learned that others should not be bullied or left alone' (Child#16).

Where and when does learning occur?

The third analytical task was to investigate where and when the children reported their learning to occur during preschool days. This task was motivated by the notion that the Finnish national core curriculum underlines equal importance of teacher-initiated lessons and informal activities, as well as the use of versatile spaces, in children's learning (FNAfE, 2014; Venninen et al., 2014). Indoor and outdoor spaces were both recognized from the data. Indoor spaces ($n = 104$) were most often the preschool premises, and the only external indoor space named by the children was the library: 'Visiting the library was a new thing for me. I learned how to behave there' (Child#25). Outdoor spaces ($n = 42$) were the preschool yard and nearby sports facilities, such as skating rinks and sledding hills: 'I learned to surf on the sledding hill [sledging while standing]' (Child#6). Learning in outdoor spaces was mostly about motoric skills and sports (see also Hsin et al., 2019).

Formal teacher-initiated activities were referenced 98 times. The following extracts are representative examples of the data. The first extract reports a traditional teacher-led classroom activity, the second extract represents a learning experience that had occurred during physical education and the third extract is an example of the integrative pedagogy of Finnish preschool education (FNAfE, 2014, pp. 30–21, 53). In the extract below, the child says that he learned the names of the months during a music lesson.

> Today, learned how the letter E is done. Our teacher showed us. (Child#16)

> I learned new things in the (gym) track, like going between the cones with the chair. I have not done that before. (Child#14)

> I learned the names of the months in music class. (Child#15)

Learning through informal activities was mentioned 24 times, and most comments were about learning everyday skills and social skills. As an example of the former, one child said, 'I learned to put my lunch box and bottle in the sink even though [name of a teacher or nurse] didn't told me so' (Child#21). As an example of the latter, one child said, 'I have learned that you shouldn't be bossy when playing with others. We had a fight today about it and it was annoying' (Child#16). Another noteworthy issue about the extract is that it was the one of the only three extracts in which learning was incorporated with failure, even though failures are known to lead to productive learning experiences (Daniels et al., 2001; Hilppö & Stevens, 2020). More precisely, the child reported an incident where they and their friends had not managed to play together because of negotiation about power, which resulted in a fight. The outcome of this situation was an unpleasant emotional experience (annoyance), which the child did not wish to face again.

What enables learning?

The fourth research objective was to investigate children's perceptions of what enables them to learn and succeed. As a result, four main themes were identified: intentional teaching, performing teacher-initiated exercises, practising and accidental learning. All these themes are individually discussed below.

Intentional teaching ($n = 31$) refers to situations where other people have taught the child things and skills by either demonstrating or telling how things are done. Intentional teaching, as illustrated in the following extracts, can be related to academic skills and contents, arts and crafts or everyday skills. 'I learned the number 10 because we had *Magic land*[5] and [name of the teacher] taught us. I

learned how to fold a mattress because [name of the nurse] taught me' (Child#8) and 'Today, I learned two new songs and to sing better. Teacher taught the new songs' (Child#33). As the extracts above illustrate, the other people were mainly adults, namely teachers and nurses. Only one child (implicitly) mentioned that their peers would have taught them something, as they said, 'I have succeeded in playing. My friend told me that sometimes you have to be a zombie and sometimes a plant' (Child#9). In Finnish, unlike in English, there are distinct terms for playing a game (*pelata*), role-play, construction play, imaginary play (*leikkiä*) and playing an instrument (*soittaa*), which makes it easier to recognize which form of playing children are referring to, even if no clarifying terms, such as 'game', are used. Here, the child used the term 'leikkiä'. Zombies and plants most likely refer to the game Plants vs Zombies. Engaging in a media-themed role-play requires a child to possess at least rudimentary knowledge about the characters and the narrative (Aarsand, 2010). Thus, the friend had to teach Child#9 enough about Plants vs Zombies to be able to engage them in the game-themed joint play in the preschool. Additionally, two children said that they had taught something—more precisely, socio-emotional skills and motoric skills—to their peers: 'during the play-time I taught my friend to calm down' (Child#40) and 'I said to [name of a friend] and [name of a friend] that you have to skate at your own pace. If you go too fast, you will fall down' (Child#35).

Performing teacher-initiated exercises (n = 50) refers to cases in which children reported that teachers had given them tasks and exercises to conduct. These exercises, as illustrated in the following extracts, were performed using books or handouts as well as digital or tangible pedagogical material. 'I learned to make the letter S with perler beads' (Child#1); 'I learned how to draw, like, skew lines … It was a preschool task' (Child#9) and 'I succeeded in playing a smart [board] game. I needed to resolve tasks, like, put alphabets in the right order' (Child#34). The data contained two examples which suggest that some children conceptualized that learning can occur only through formal and teacher-initiated exercises in which traditional teaching materials, such as books and handouts, are used. One child considered performing the tasks of exercise books as a fundamental prerequisite for learning. Their group had a math lesson in which the card game Uno was used as pedagogical material, but he realized the academic content of the activity only when the books were used. As put by the child himself, 'we preschoolers had math. First, I thought that we wouldn't have because we didn't do tasks in the exercise book — We played Uno' (Child#4). Another child, in turn, commented that they had drama-based activities earlier in the day. According to them, the activity was fun, but nothing new could be learned through such practices. In his own words, 'We played roles, [it] was fun. You cannot learn new things from it' (Child#32).

Practicing (*n* = 22) refers to examples where the children expressed that they have learnt something through repeated and intentional endeavours: 'I learned [to do] somersaults because I have practiced them on trampoline' (Child#37) and 'I learned to draw a skate … … Well, because I have practiced' (Child#8). ***Cognitive engagement*** (*n* = 20) refers to examples in which the children expressed that they had intentionally focused on learning new things or developing their existing skills (see also Mykkänen et al., 2016). As put by one child, 'I learned the letter T. I learned it, because I listened' (Child#36). ***Observation*** (n = 2) refers to situations in which the children casually observe others to do things and draw conclusions based on these observations (see also Mertala, 2019). One child said, 'I learned that if you slide down a hill the wrong way around you can hit your face to snow and cry. I learned it when I saw that [name removed] did so' (Child#16). Child#16's observation also serves as a bridge to the next theme, learning through ***failures***, which —as previously noted—was mentioned three times in the data. The child they had observed said, 'my rolling technique down the snow hill did not work because I hit my head to ground' (Child#20). The day before, the child said, 'I invented my own style to go down the snow hill. I invented it so that I couldn't be caught' (Child#20). In other words, the child hypothesized that a certain rolling technique would enable them to escape the catchers in the game they were playing with their peers. The hypothesis, however, was proved wrong when they attempted the technique in practice, and instead of running, free-hit his head.

Learning by accident ($n = 4$) refers to situations where learning is an outcome of a lucky incident. One child said, 'I realized how you can make green paint. I accidently mixed blue and yellow' (Child#15). Another child commented, 'I succeeded in skating. In a skating lesson, I learned how to spin around. First, I spin around by accident and then I learned it' (Child#17). Despite the fact that both children said that their learning occurred accidently, it is important to acknowledge that not all accidents are alike. Let us begin with a closer inspection of Child#17's case. Learning how to spin on skates first by accident (and then on purpose) is an accident that requires certain existing skills. It is an accident that can hardly occur when the child is skating for the first time. To be able to successfully spin on skates by accident requires the child to maintain their balance on skates even with the centre of gravity of their body changing. This is something that requires practice, experience and well-developed cross-motoric skills in general. However, accidentally mixing blue and yellow paints does not require such preliminary expertise. Straightforwardly put, all that are required are pots of paint, a child and some good luck.

Concluding remarks

In this qualitative study, 177 micro-interviews conducted with 41 Finnish children were analysed using an abductive method to understand their perceptions of learning in a preschool. The focus was on what learning is, what is learned in a preschool, where and when learning occurs and what helps the child to learn. Learning was perceived as *learning to do* or *know* things. As the contents of learning, the children most often mentioned academic skills and content, followed by motoric skills and sports, arts and crafts, socio-emotional skills and everyday skills. The prominence of academic skills and content differs from the previous research conducted with school-aged children (Hsin et al., 2019). One explanation for this disparity is that in the Finnish system, a preschool is a transition stage from socio-pedagogical ECE towards a more academically oriented basic education. There is emerging evidence that expectations of primary education play a part in preschool educators' pedagogical decision-making (Mertala, 2017). Both indoor and outdoor spaces, as well as teacher-initiated sessions and informal activities, such as free play, were mentioned as the learning contexts. In addition, intentional teaching, teacher-initiated exercises, practising, cognitive engagement, casual observations, failures and accidents were mentioned as enablers of learning.

Limitations and implications

When drawing conclusions from the findings, the following limitations need to be acknowledged. First, the pedagogical principles and atmosphere of preschool education vary among countries. Finnish preschool education and Nordic preschool education, in general, are grounded on the tradition of social pedagogy in which play and child-initiated practices are emphasized (Karila, 2012). This tradition differs notably from those of other countries and contexts, and therefore, the findings of this study cannot be straightforwardly generalized to be applied to other contexts and cultures. Given that previous research has identified some context-bound differences in children's perceptions (Brostöm, 1998), cross-cultural research with shared methods would be beneficial and required (see Sandberg et al., 2017 for a practical example).

Second, the notion that only three children mentioned failure as a source of learning is attributable to the fact that the questions asked in the micro-interview connoted learning with succeeding. Thus, developing data collection procedures that not only preserve the context sensitivity of the present study but also broaden the scope of learning experiences would be useful. In addition, note that the data collection occurred during winter. For example, the relatively high number of skating-related extracts is best explained by the fact that January is a typical time for intense skating-training because the rings are in good condition due to frost. Accordingly, it is rather obvious that children are taught animal hibernation during winter. Thus, more longitudinal research

approaches are required to better understand the possible temporal changes in children's perceptions of learning.

Finally, the data placed a heavy emphasis on learning academic content in formal situations through intentional teaching and by performing teacher-initiated exercises. As an extreme case, some children thought that learning in a preschool occurs only within traditional teacher-initiated lessons and activities and not through drama- or game-based activities. This finding may reflect the Nordic social pedagogy tradition (Karila, 2012), where learning is embedded in everyday practices of a preschool not only in teacher-led lessons (Einarsdóttir, 2014; Sandberg et al., 2017; Venninen et al., 2014). Such tradition, as the findings suggest, can make learning situations besides teacher-initiated lessons difficult for the children to distinguish. Put differently, a well-planned rich and versatile preschool learning environment may not appear as such to children without intentional and systematic support from educators.

The main pedagogical implication of this notion is that it can be beneficial to address the various ways and contexts of how and where learning can occur with children to diversify and enrich their perceptions of learning. Consider the role of failures in learning, for example. To paraphrase Hilppö and Stevens (2020), if we wish to help children recognize the value of failure in the process of learning and capitalize on it as a significant learning opportunity, we must find ways to reframe failure as something productive rather than punitive. There is often a good deal of thinking behind a failed attempt. The methods that children choose for solving a certain problem signal that they have created a (at least implicit) hypothesis of what achieving the desired outcome requires. A failed attempt has proven this particular hypothesis wrong, and going through and verbalizing the process with children in a sensitive and encouraging manner are valuable moments for learning to learn. Currently, such practices are often framed as positive pedagogy/education (e.g. Ranta, Uusiautti, & Hyvärinen, 2020). However, a respectful and appreciative stance towards children's learning initiatives can be seen as an inherited value of child-centred/-initiated ECE (e.g. Georgeson et al., 2015; Helavaara Robertson, Kinos, Barbour, Pukk, & Rosqvist, 2015; Mertala, 2020). Similar principles are also included in the influential Reggio Emilia and Montessori approaches (Edwards, 2002). Thus, the provision of intentional and sensitive support for children's learning skills is not limited to any particular pedagogical framework but is required from every early years educator.

Notes

1. Biesta (2015) noted that learning the language of learning is a process language that, at least in English, is an individual and individualizing language, which often neglects the realtionality of learning: students learn *something,* they, learn it for a *reason*, and they learn it *from someone* (Biesta, 2015, p. 76; italics original).
2. The actual term used in Finnish terminology is pre-primary education. However, in this paper, I prefer preschool instead of pre-primary to use a concept more familiar to international readers.
3. This particular example was inspired by my four-year-old child, who is eager to share this information with anyone who shows even a slightest hint of interest.
4. At the time of writing this article, the National Ministry of Education and Culture and the selected Finnish municipalities piloted a two-year long preschool period in which children enter the year they turn five.
5. Name of the exercise book

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Notes on contrubutor

Dr. Pekka Mertala works as an assistant professor of multiliteracies and digital literacies in the Faculty of Education and Psychology at the University of Jyväskylä, Finland.

ORCID

Pekka Mertala http://orcid.org/0000-0002-3835-0220

References

Aarsand, P. (2010). Young boys playing digital games. *Nordic Journal of Digital Literacy*, *5*(1), 38–54. Retrieved from https://www.idunn.no/dk/2010/01/art04?languageId=2

Bertram, T., & Pascal, C. (2016). *Early childhood policies and systems in eight countries: Findings from IEA's Early childhood education study*. Cham: Springer.

Biesta, G. (2015). What is education for? On good education, teacher judgement, and educational professionalism. *European Journal of Education*, *50*(1), 75–87. doi:10.1111/ejed.12109

Brostöm, S. (1998). Kindergarten in Denmark and the USA. *Scandinavian Journal of Educational Research*, *42*(2), 109–122.

City of Tampere. (n.d.). Esi- ja alkuopetus [Pre-primary education and grades 1 and 2]. Retrieved from https://www.tampere.fi/varhaiskasvatus-ja-koulutus/esiopetus-ja-perusopetus/esi-ja-alkuopetus.html

Daniels, D. H., Kalkman, D. L., & McCombs, B. L. (2001). Young children's perspectives on learning and teacher practices in different classroom contexts: Implications for motivation. *Early Education and Development*, *12*(2), 253–273. doi:10.1207/s15566935eed1202_6

Edwards, C. P. (2002). Three approaches from Europe: Waldorf, Montessori, and Reggio Emilia. *Early Childhood Research & Practice*, *4*(1), n.p.

Einarsdóttir, J. (2014). Children's perspectives on the role of preschool teachers. *European Early Childhood Education Research Journal*, *22*(5), 679–697. doi:10.1080/1350293X.2014.969087

Finnish National Agency for Education. (2014). *Esiopetuksen opetussuunnitelman perusteet* [Core Curriculum Guidelines for Pre-Primary Education]. Retrieved from https://www.oph.fi/sites/default/files/documents/esiopetuksen_opetussuunnitelman_perusteet_2014.pdf

Finnish National Board on Research Integrity. (2019). *The ethical principles of research with human participants and ethical review in the human sciences in Finland*. Retrieved from https://tenk.fi/sites/default/files/2021-01/Ethical_review_in_human_sciences_2020.pdf

Finnish National Agency for Education. (n.d.). *Esiopetus* [Pre-primary education]. Retrieved from https://www.oph.fi/fi/koulutus-ja-tutkinnot/esiopetus

Georgeson, J., Campbell-Barr, V., Bakosi, É, Nemes, M., Pálfi, S., & Sorzio, P. (2015). Can we have an international approach to child-centred early childhood practice*? Early Child Development and Care*, *185*(11–12), 1862–1879. doi:10.1080/03004430.2015.1028388

Grönfors, M. (2011). *Laadullisen tutkimuksen kenttätyömenetelmät* [Field Methods for Qualitative Research]. SoFia-Sosiologi-Filosofiapu Vilkka.

Helavaara Robertson, L., Kinos, J., Barbour, N., Pukk, M., & Rosqvist, L. (2015). Child-initiated pedagogies in Finland, Estonia and England: Exploring young children's views on decisions. *Early Child Development and Care*, *185*(11–12), 1815–1827. doi:10.1080/03004430.2015.102839216

Hilppö, J., & Stevens, R. (2020). "Failure is just another try": Re-framing failure in school through the FUSE studio approach. *International Journal of Educational Research*, *99*, 101494. doi:10.1016/j.ijer.2019.10.004

Hotulainen, R., Vinni-Laakso, J., & Kupiainen, S. (2020). Development of learning to learn competence across secondary education and its association with attainment in Finnish/Swedish high-stake exit exam. *Thinking Skills and Creativity*, *38*, 100738. doi:10.1016/j.tsc.2020.100738

Hsieh, W. M., & Tsai, C. C. (2018). Learning illustrated: An exploratory cross-sectional drawing analysis of students' conceptions of learning. *The Journal of Educational Research*, *111*(2), 139–150. doi:10.1080/00220671.2016.1220357

Hsin, C. T., Liang, J. C., Hsu, C. Y., Shih, M., Sheu, F. R., & Tsai, C. C. (2019). Young children's conceptions of learning: A cross-sectional study of the early years of schooling. *The Asia-Pacific Education Researcher*, *28*(2), 127–137. doi:10.1007/s40299-018-0419-9

Karila, K. (2012). A Nordic perspective on early childhood education and care policy. *European Journal of Education*, *47*(4), 584–595. doi:10.1111/ejed.12007

Kinos, J., & Palonen, T. (2013). *Selvitys esiopetuksen velvoittavuudesta* [Statement on the compulsory nature of pre-primary education]. Opetus- ja kulttuuriministeriön työryhmämuistioita ja selvityksiä 5. Retrieved from https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/75302/tr05.pdf?sequence=1&isAllowed=y

Leat, D., Thomas, U., & Reid, A. (2012). The epistemological fog in realising learning to learn in European curriculum policies. *European Educational Research Journal*, *11*(3), 400–412. doi:10.2304/eerj.2012.11.3.400

Li, J. (2004). Learning as a task or a virtue: US and Chinese preschoolers explain learning. *Developmental Psychology*, *40*(4), 595–605. doi:10.1037/0012-1649.40.4.595

Mertala, P. (2017). Wag the dog–The nature and foundations of preschool educators' positive ICT pedagogical beliefs. *Computers in Human Behavior*, *69*, 197–206. doi:10.1016/j.chb.2016.12.037

Mertala, P. (2019). Young children's conceptions of computers, code, and the internet. *International Journal of Child-Computer Interaction*, *19*, 56–66. doi:10.1016/j.ijcci.2018.11.003

Mertala, P. (2020). Misunderstanding child-centeredness: The case of" child 2.0" and media education. *Journal of Media Literacy Education*, *12*(1), 26–41. doi:10.23860/JMLE-2020-12-1-3

Mertala, P. (2021). Using playful methods to understand children's digital literacies. In K. Wall, & L. Arnott (Eds.), *Research through play: Participatory methods in Early childhood* (pp. 179–191). Thousand Oaks, CA: Sage.

Moreno, A., & Martín, E. (2007). The development of learning to learn in Spain. *The Curriculum Journal*, *18*(2), 175–193. doi:10.1080/09585170701446028

Mykkänen, A., Määttä, E., & Järvelä, S. (2016). 'What makes her succeed?' Children's interpretations of their peers' successes in learning situations. *International Journal of Early Years Education*, *24*(1), 97–112. doi:10.1080/09669760.2015.1110515

Ministry of Education and Culture. (n.d.). *Esiopetus* [Pre-primary Education]. Retrieved from https://minedu.fi/esiopetus

Palsa, L., & Mertala, P. (2019). Multiliteracies in local curricula: Conceptual contextualizations of transversal competence in the Finnish curricular framework. *Nordic Journal of Studies in Educational Policy*, *5*(2), 114–126. doi:10.1080/20020317.2019.1635845

Pramling, I. (1988). Developing children's thinking about their own learning. *British Journal of Educational Psychology*, *58*(3), 266–278. doi:10.1111/j.2044-8279.1988.tb00902.x

Punch, S. (2002). Research with children: The same or different from research with adults? *Childhood*, *9*(3), 321–341. doi:10.1177/0907568202009003045

Ranta, S., Uusiautti, S., & Hyvärinen, S. (2020). The implementation of positive pedagogy in Finnish early childhood education and care: A quantitative survey of its practical elements. *Early Child Development and Care*. Online early. doi:10.1080/03004430.2020.1763979

Regulation on the qualification requirements for teaching staff. (1998). Retrieved from https://www.finlex.fi/fi/laki/ajantasa/1998/19980986

Sandberg, A., Broström, S., Johansson, I., Frøkjær, T., Kieferle, C., Seifert, A., … Laan, M. (2017). Children's perspective on learning: An international study in Denmark, Estonia, Germany and Sweden. *Early Childhood Education Journal*, *45*(1), 71–81. doi:10.1111/j.2044-8279.1988.tb00902.x

Sobel, D. M., Li, J., & Corriveau, K. H. (2007). "They danced around in my head and I learned them": Children's developing conceptions of learning. *Journal of Cognition and Development*, *8*(3), 345–369. doi:10.1080/15248370701446806

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of Management Journal*, *59*(4), 633–642. doi:10.5465/amj.2006.22083020

Trilling, B., & Fadel, C. (2009). *21st century skills, enhanced edition: Learning for life in Our times*. Hoboken, NJ: Wiley.

Venninen, T., Leinonen, J., Lipponen, L., & Ojala, M. (2014). Supporting children's participation in Finnish child care centers. *Early Childhood Education Journal*, *42*(3), 211–218. doi:10.1007/s10643-013-0590-9