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CONTENTS

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Research Article

Play based activities for mathematical thinking at infancy: Nursery teachers' and parents' beliefs

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Abstract: Mathematics takes place in a major part of human life and mathematical concepts are used in every part of daily life, starting from the age of infancy. The present study concentrates on the age of 11 months to two years, during nursery education, when formal, informal and non-formal activities enable infants to have experiences related to mathematical concepts. Nursery teachers are expected to include play-based activities at every stage of the teaching process, while parents are recognized as young children's first educators. We examined nursery teachers' and parents' beliefs and practices about the development of the infants' mathematical skills through the use of play-based activities and their respective roles. The present study was conducted in Cyprus, where obligatory preschool education is only one year before primary education. Questionnaires, interviews and shared diaries with home activities were used for quantitative and qualitative data. Results indicated that both groups of participants expressed positive conceptions on the value of daily life play-based activities which could support mathematical learning. However, it seemed that in the case of parents there was a lack of relevant knowledge about the use of attractive and creative activities which could relate to plenty of mathematical concepts. Parents recognize the vital role of teachers and they asked for further guidance and support. We discuss how we can ensure the quality of early mathematics informal teaching and nonformal learning experiences can be offered for all infants. We discuss the role of the Curriculum in Mathematics at nursery school under a play-based context and the guided parental involvement.

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Keywords
Play-based activities; Teachers' and parents' beliefs; Mathematical thinking

Introduction

The National Council of the Teachers of Mathematics and the National Association for the Education of Young Children underline that high quality, challenging and interesting education at early ages is a vital foundation for future mathematical performance, by concentrating at the ages of 3 - 6 years old (Cerezci, 2020). Most studies concentrated on those ages, as most of the Curricula in Mathematics worldwide are starting from the age of 3 or 5 years old without any reference at the nursery education. The role of nursery education for infants and the role of non-formal learning through parental involvement have not been examined thoroughly. We have to keep in mind that children start playing before they walk or speak. Play allows the children to show their feelings, emotions and ideas (Ozdogan, 2011). There are plenty of studies on the effect of play-based activities on language learning, cognitive development and mathematical skills (Derman et al., 2020). However, only a few of them are referred to preschool education and mainly nursery education.

The present study concentrates on the age of 11 months to two years old, during nursery education. Nursery teachers are expected to develop infants' mathematics competencies by including play-based activities. They need to create and support an appropriate pedagogical environment and at the same time, they are expected to cooperate with parents in order to guide them on how they could have productive learning time with their infants. We have to underline that we are talking about educational systems where

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the availability of universal childhood education has become a reality and we now need further to ensure that even at the ages of non-obligatory education the teaching and learning experiences are qualitative for all children. The present study was conducted in the educational system of Cyprus, where obligatory education started one year before primary education. Most children attend a private preschool starting at the age of 2 or 3 years. Infants are either under the care of their grandparents or attend private nursery schools. Those nursery schools are under the supervision of the Ministry of Labour and not the Ministry of Education and it does not have to base their program on a Curriculum.

The present study is a part of a project about the development of mathematical thinking at the age of infancy through the use of formal and informal play-based activities at school and at home. The aims which are presented here concentrated on (a) the nursery teachers' beliefs and practices about the development of mathematical skills at early ages and the respective role of play-based activities and (b) the parents' beliefs about their own role through the everyday activities with their children and their beliefs about the respective nursery teachers' role.

Nursery Education and Research on Mathematics Learning at the Age of Infancy

Contemporary research on early mathematics education focuses on children from birth until they enter formal schooling (Bjorklund et al., 2020). The starting age of formal schooling is different for each educational system. In some cases, the formal Curriculum is starting at the age of 5 years old and in a few cases at the age of 3 years old without having any reference to the previous ages. Cognitive psychology and research on early ages indicated that infancy and the first childhood are the periods where the fastest development is observed (Demetriou et al., 2020). Anthony and Walshaw (2009) argue that the development of mathematical competencies begins at birth and there are enriched through everyday experiences. The structured experiences offer added value to the learning processes. At the same time, the period from birth to the start of school is an important developmental phase where children acquire fundamental knowledge and develop basic skills necessary for later learning and school achievements (Soto–Calvo & Sanchez-Barrioluengo, 2011). Even the time spent in childhood education and care centres seemed to predict the child's numeracy competencies in future (Anders et al., 2013) or at least in the first grades of primary education (Aunio & Niemivitra, 2010). In order to face the inter-individual differences among children in their mathematical abilities at school entry, we need to study further the role and impact of nursery education in relation to parental involvement.

Ideally, the learning of mathematics should begin since birth and continue always as children explore the world around them by themselves. In order to do that they need important figures such as their parents and the nursery teachers in order to assist them positively and productively to construct and enrich their cognitive structures (Irma et al., 2017). In this way, they could construct new knowledge and use their cognitive abilities fluently and flexibly. Parviainen (2019) argues that the mathematical skills gained in early childhood influence later mathematical achievement and consequently it is clear the importance of strengthening mathematics learning and skills in early childhood education (Sarama & Clements, 2009). Watts et al. (2014) indicated that the mathematics competencies children demonstrate at school entry are the strongest predictors of their later school achievement. In order to talk about teaching and learning mathematics in the early years, we have to conduct studies in various complex, multifaceted and dynamic learning environments which include at least home activities and nursery school activities. Everyday activities provide the stimulus for informal mathematical development. For example, young children at the age of infancy can learn about patterns through rhymes and songs (Anthony & Walshaw, 2009).

The majority of the children when they start kindergarten at the age of 3 years old, can count small sets of objects and they share objects equally into groups. Earlier studies identified the phenomenon of subitizing, according to which children are able to visually process objects of four or fewer objects without counting them (Bruce et al., 2016). All the Curriculum in mathematics included at least five main thematical units: numbers/operations, geometry, measurement, patterns/relations and statistics/probabilities. Many times, there is a misconception and an identification of numeracy with mathematics learning and for this reason, research concentrated on number development and numeration (Yilmaz, 2017). Elia (2018)

concentrated on geometric and spatial thinking in early childhood by emphasizing the role of the body and other semiotic resources. When babies locate themselves and objects in space they are using either landmarks or geometric cues (Cross et al., 2009). Several studies indicated that children gradually learn to build mental images of the surrounding environment and create mental maps for navigation by using spatial abilities (Clements & Samara, 2007). Undoubtedly the mathematical concepts are interrelated and when children learn measurement, they connect length with numbers (Hawes et al., 2017).

The Play-Based Learning at the Age of Infancy and Nursery Teachers' and Parents' Beliefs

Play is the leading activity that children enjoy. They start to play before they walk or speak (Ozdogan, 2011) and consequently it is the basement of the social, physical, emotional, mental and cognitive development of the child. Through play, young children and infants develop their self-confidence and construct their self-image. The play has long been regarded as a critical element of early childhood curriculum and pedagogy (Dockett & Perry, 2010). Defining play and play-based learning is not straightforward (Carolan et al., 2020). Much of what we know about play and its relationship with learning has its roots in theorists such as Piaget, Vygotsky and Bandura, who underline the role of play, investigation and exploration, the role of language and communication. There are numerous of studies on the effect of play-based mathematical activities on mathematical skills, language and cognitive development at the ages of preschool education (Derman et al., 2020).

One of the main aims of mathematics education is to ensure that mathematical learning is meaningful and enjoyable for children. The Curriculum, the teaching processes and the learning environment need to retain a sense of playfulness in order to ensure the fun and positive dispositions through the experiences (Lee, 2010). Similarly, the everyday activities at home can be used as part of informal or non-formal learning. For example, the activities of sharing, cooking, completing puzzles and estimating provide opportunities for young children to practice and develop mathematical competencies.

As Bruce et al. (2016) underline, while children demonstrate remarkable abilities with many mathematical concepts, many nursery teachers do not have positive beliefs about the necessity to "teach" mathematics or they do not have the necessary competence and confidence on engaging meaningfully with both the children and the content of mathematics. Their knowledge, their beliefs and their self-efficacy beliefs are the most important factors that influence their practices in the school environment. The absence of a formal curriculum at these ages does not enable teachers to depend their decision on a theoretical framework derived from experts and policymaker stakeholders.

The second vital dimension is parents. Parents are recognized as young children's first educators. Studies about the home numeracy environment have in most cases found a positive relation between indices of the home numeracy environment with the children's number skills (Soto-Calvo , 2019). However, their impact differs based on their socioeconomic background (Nguyen et al., 2016). For example, Levine et al. (2010) indicated that parents with low background provide more input about simple counting than parents with a high background who emphasize more estimation, number cardinality and in general advanced sense skills.

Levine et al. (2010) studied for many years in a longitudinal study on the role of parental math talk on the children's acquisition of cardinality. It was impressive that children by the age of 30 months old were able to count and label cardinal value sets. Similarly, Casey et al. (2008) used block–building interventions in relation to storytelling and they indicated that storytelling provided an effective context for teaching geometrical concepts and spatial sense. Carolan et al. (2020) examined families' experiences of a funded play-based early learning program for children in the year before school entry. Results indicated mainly the importance of good communication with teachers in order to understand the play-based framework.

Sometimes parents try to use typical school-based activities through textbooks in order to accelerate the development of their children's knowledge and skills. However, they need to relate the intended goals with play; otherwise, they create to their children a disposition of boringness towards school. They have to

know the balance in order to promote both play and mathematical understanding (Dockett & Perry, 2010). The learning opportunities need to arise from both naturally occurring informal experiences and from planned activities (Anthony & Walshaw, 2009) that are play-based.

The present study focuses on how nursery teachers construct beliefs and self-efficacy beliefs about their role to be engaged in both play-based pedagogy and mathematics as a curriculum discipline. The main challenge is for an integrated mathematical curriculum for very young learners in order to develop mathematical thinking through a bridge that connects in a realistic and natural context the pedagogy, with the curriculum and the related learning communities at school and home. The role of activities at home through non-formal learning processes engages parents whose beliefs guide their actions.

Method

In order to examine teachers' and parents' beliefs about the role of play-based activities on the development of infants' mathematical thinking at the age of 11 months to 2 years old, a mixed methodology was used. We aimed to relate teachers' and parents' beliefs with their practices at school and their everyday home activities respectively. The quantitative part is based on data collected through a questionnaire for the nursery teachers' beliefs and a questionnaire for the parents of a nursery school which was examined as a case study, due to the first researcher's special relation which increased participants' confidence. The qualitative part is based on semi-structured interviews with a group of parents and the activities they kept as a diary and shared them with us.

Sample

The sample for the quantitative part of the study was consisted of two main groups of participants: nursery teachers and infants' parents. 110 nursery teachers who were working with children up to the age of 2 years old and 99 parents (44 fathers and 55 mothers) whose children went to a nursery school took part at the study. The sample was not representative as due to the pandemic of Covid-19 we were not able to visit the nursery schools. We had used social media for finding the sample of the nursery teachers, by sharing the online questionnaire and having it open for 3 days. Obviously, the sample was not representative and probably participants who took part voluntarily had specific characteristics which were not examined by this study. We had visited a nursery school in Cyprus, where the second researcher had easy access due to personal relations, in order to ask parents to take part in the study. With the contribution of the director, almost one parent of each child of all the children of the school (99 parents of 105) completed the questionnaire. A small group of 7 parents took part in individual semi-structured interviews and kept a diary for a week where they were asked to present the home activities with their children which were related to the development of mathematical thinking. The sample of a small group of parents accepted to spend a few more time in order to take photos of the activities with their children and describe them. Although we knew that probably the parents who accepted voluntarily to take part in the second part of the study had extra interest and they did not represent even all the parents of the school we aimed to have indications about the activities they used. All the participants were informed that they could abort from participation in the study and the parents of the qualitative part of the study gave their signed permission to use the photos without revealing their children's identities.

Measurement Tools

A questionnaire was constructed for the measurement of nursery teachers' beliefs and a questionnaire for the measurement of parents' beliefs. The teachers' questionnaire consisted of 28 Likert type items (1= strongly disagree and 5 = strongly agree). The items are presented in Table 1, as part of the results of the exploratory factor analysis. Items were about their beliefs about the epistemology of learning mathematics, their beliefs about the teaching of mathematics in nursery and preschool education, the curriculum of mathematics and the teaching processes which mainly reveals the role of play. The parents' questionnaire consisted of 31 items (Table 2) about the development of mathematical thinking, the role of play in their children's life, their beliefs about the role of the nursery teachers and their role as the constructors of their children's everyday activities at home. A protocol was used for the individual semi-

structured interviews with parents and guidelines were given to them in order to keep a weekly diary with the activities they organize for their kids and there were related to mathematics.

Data Analysis

Quantitative data were analyzed by using the SPSS. Exploratory factor analysis was used for each one of the questionnaires in order to identify the major factors which constructed nursery teachers' and parents' beliefs. After the content analysis of the factors, we had conducted descriptive statistics on them. Qualitative analysis was used in order to examine specific aspects of parents' beliefs and mainly in order to identify the play-based activities they organize for their infants which were related to the development of mathematical thinking. We aimed to relate their actions with their respective beliefs. Specifically, we had used content analysis of the interviews in order to concentrate our attention on the activities they used, the games they buy or organize, their expectations about the teachers' role and their beliefs about their role. The diaries were used in order to identify activities that could confirm their practices whether there were previously expressed or not.

Results

We first subjected the nursery teachers' responses to exploratory factor analysis in order to examine the extent to which the questionnaire statements reflected the main dimensions under examination. The analysis of the participant's responses to the items resulted in four factors with eigenvalues greater than 1 (KMO=0.807, $p<0.05$). Those four factors explained the 68.295% of the total variance. The first factor which was consisted of 7 items reflected on nursery teachers' beliefs about the infants' understanding of mathematical concepts. The second factor was consisted of 7 items about the development of children's mathematical thinking. The third factor was about the role of play on the infants' mathematical understanding and the fourth factor was about the role of play on the children's mathematical understanding. At Table 1 the loadings of the items on the factors are presented.

The means (min=1 and max=5) of the four factors were high (Table 2) indicating the positive beliefs that nursery teachers have about the role of teaching on the development of mathematical thinking at an early age and mainly the significant role of the play-based activities. They recognize the predominant role of their work as the organizers of the activities at school and as the experts who have to guide the parents for relevant informal activities in authentic framework.

Table 1. The factor loadings of the items of the nursery teachers' questionnaire

Statements	Factors			
	1	2	3	4
It is necessary to master the subject of mathematics in order to be able to teach mathematics to all children.	.942			
Learning maths requires talent.	.916			
Every child can learn mathematics.	.874			
Mathematical teaching through play facilitates the learning and acquisition of mathematical concepts by all children.	.866			
Using play for teaching mathematical concepts to children in infancy is difficult for me.	.867			
My classroom's infants enjoy using mathematical play.	.785			
My classroom's infants enjoy participating to mathematical activities.	.418			
I organise mathematical teaching activities through play		.855		
I organise mathematical teaching activities through fairy tales.		.813		
I organise mathematical teaching activities through outdoor play.		.722		
During meeting with parents, we discuss about activities they can do with their children.		.784		
During meeting with parents, we discuss about ways they can take advantage of playing with their children.		.531		
During meeting with parents, I suggest them board games that are useful to play with their children.		.651		
During meeting with parents, I suggest them exploration activities they can have with their children in the countryside, in the yard, in a park.		.755		

Play contributes positively to the infants' acquisition of the mathematical concept of "numbers" (0-10).	.737	
Play contributes positively to the infants' acquisition of the mathematical concept of "spatial orientation" (up/down/inside/outside).	.659	
Play contributes positively to the infants' acquisition of the geometrial concepts	.728	
Play contributes positively to the infants' acquisition of the mathematical concept of "measurement" (small / medium/ large / little/ very).	.601	
Play contributes positively to the infants' acquisition of the mathematical concept of "patterns".	.822	
Play contributes positively to the infants' acquisition of the statistical concepts.	.813	
Play contributes positively to the children's acquisition of the mathematical concept of "numbers" (0-10).		.815
Play contributes positively to the children's acquisition of the mathematical concept of "spatial orientation" (up/down/inside/outside).		.908
Play contributes positively to the children's acquisition of the geometrial concepts		.882
Play contributes positively to the children's acquisition of the mathematical concept of "measurement" (small / medium/ large / little/ very).		.898
Play contributes positively to the children's acquisition of the mathematical concept of "patterns".		.880
Play contributes positively to the children's acquisition of the statistical concepts.		.743

Table 2. Means and SDs of the four factors which derived by nursery teachers' questionnaire

Factors	Mean	Standard Deviation
F1: Infants' understanding of mathematical concepts	3.33	.505
F2: Development of children' s mathematical thinking	3.33	.440
F3: The role of play on children's mathematical thinking	3.44	.520
F4: The role of play on children's mathematical understanding	3.47	.484

The analysis of the parents' responses at the items resulted in six factors with eigenvalues greater than 1 (KMO=0.736, $p<0.05$). Those six factors explained the 75.401% of the total variance. The content analysis of the items resulted in the following up factors: F1: Beliefs about the children's mathematical thinking development, F2: Beliefs about the acquisition of the mathematical concepts by their children in relation to their attitudes towards mathematics, F3: Beliefs about the ways of developing children's mathematical thinking, F4: The role of nursery teachers on the development of children's mathematical thinking, F5: The contribution of play to the acquisition of mathematical concepts by infants and F6: The contribution of play to the acquisition of mathematical concepts by children. In Table 3 the loadings of the items on the factors are presented.

The means of the six factors were high (Table 4) with only the exception of the second factor (1.70). However, the second factor underlined the role of parents to facilitate their children to take part in activities that engage in mathematics although their own negative experiences led them to have negative attitudes towards mathematics and probably low self-efficacy beliefs. The results underlined their expectations of nursery teachers to use play-based activities for the development of infants' and children's mathematical thinking and understanding of mathematical concepts.

Table 3. The factor loadings of the items of the nursery teachers' questionnaire

Statements	Factors					
	1	2	3	4	5	6

It is necessary for all the children to understand the mathematical concepts	.597					
All children can learn mathematics.	.767					
Every child can learn mathematics through play.	.748					
Teaching mathematics at nursery education have to include the use of playful activities.		.706				
It is necessary for me as parent to like mathematics in order to engage my child in mathematical activities.		.794				
It is necessary for me to like mathematics in order to engage my child in mathematical games at home.		.477				
I enjoy using toys at home in order to "teach" mathematics to my child.			.836			
It is easier for me to use play in order to "teach" my child maths at home.			.882			
I use fairy tales in order to "teach mathematics to my child.			.810			
I teach mathematics to my child through our play inside and outside the home			.582			
Nursery teachers need to use the play in order to enable my child to understand various mathematical concepts.				.438		
Nursery teachers need to organize structured play-based activities on a daily basis in order to enable my child to construct mathematical concepts.				.894		
Nursery teachers need to provide the necessary feedback to my child when he / she performs mathematically organized playful activity in a wrong way.				.918		
The role of kindergarten teachers during playful mathematical activities should be active and supportive for my child.				.849		
Play contributes positively to the infants' acquisition of the mathematical concept of "numbers" (0-10).					.925	
Play contributes positively to the infants' acquisition of the mathematical concept of "spatial orientation" (up/down/inside/outside).					.890	
Play contributes positively to the infants' acquisition of the geometrial concepts					.909	
Play contributes positively to the infants' acquisition of the mathematical concept of "measurement" (small / medium/ large / little/ very).					.895	
Play contributes positively to the infants' acquisition of the mathematical concept of "patterns".					.882	
Play contributes positively to the infants' acquisition of the statistical concepts.					.739	
Play contributes positively to the children's acquisition of the mathematical concept of "numbers" (0-10).						.939
Play contributes positively to the children's acquisition of the mathematical concept of "spatial orientation" (up/down/inside/outside).						.907
Play contributes positively to the children's acquisition of the geometrial concepts						.901
Play contributes positively to the children's acquisition of the mathematical concept of "measurement" (small / medium/ large / little/ very).						.905
Play contributes positively to the children's acquisition of the mathematical concept of "patterns".						.882
Play contributes positively to the children's acquisition of the statistical concepts.						.764

Table 4. Means and SDs of the Six Factors which Derived of Parents' Questionnaire

Factors	Mean	Standard Deviation
F1: Beliefs about the children's mathematical thinking development	3.61	.373
F2: Beliefs about the acquisition of the mathematical concepts in relation to their attitudes towards mathematics	1.70	.442
F3 :Beliefs about the ways of developing children's mathematical thinking	3.49	.421
F4: The role of nursery teachers on the development of children's mathematical thinking	3.50	.417
F5 : The contribution of play to the acquisition of mathematical concepts by infants	3.72	.408
F6: The contribution of play to the acquisition of mathematical concepts by children	3.54	.459

During the interviews, parents expressed their beliefs that authentic activities which engage

mathematical concepts contribute positively to the enhancement of their children's mathematical performance in future. A father told us that during the age of nursery education "teacher offers to kids the first experiences with mathematical concepts which will understand in future", while "parents try to enhance their children's probabilities for future success. The knowledge of mathematics is necessary for the success". The examples they proposed concentrated mainly on number acquisition, numerosity and the representation of symbols. They acknowledged the importance of all the mathematical concepts (with references to measurement, patterns, statistics); however, they admitted that they did not have the knowledge and the skills to use appropriate play-based activities. A mother claimed that she "tried to understand the content and the context of the activities at nursery school in order to repeat them at home. I have friends who are related to education and I asked them to suggest to me the most appropriate games in order to buy them for my kids. I do not feel comfortable asking the nursery teacher". Similarly, a father said that he tried to buy a few of the games that were used at the school as he did not know himself what was appropriate. All the parents seemed to ask for further communication with the nursery teachers in order to guide them to understand what types of games they could buy and what types of activities they could organize. They expressed the conception that their children have to "play" at this age and not to be engaged in typical or formal mathematical activities which could create negative dispositions about mathematics. "My older daughter finds mathematics as a boring subject with many symbols. I tried to follow the nursery teachers' guidelines". Two parents said that they tried to relate everyday activities with the learning of mathematical concepts. One of them use "hide and seek" as an example of a simple play that enabled children to learn the multiples of 5. Another one said that she asked her daughter to count objects (dolls, cars, blocks) as part of the play. All the examples of activities that they presented were related to counting and numerosity.

On the contrary, very interesting and impressive were the activities which were included by the parents who accepted to keep and share with us a diary with the everyday activities they had with their kids for a week. The presented parents' activities could be divided into two main types: a) those which depended on games they bought for their infants by having in mind that there were expected to contribute to their development of thinking (Figures 1, 2 and 3) and b) those which depended on everyday activities which were organized purposely by themselves in order to activate their children's mathematical thinking (Figures 4 and 5). In Figure 4, a mother asked her son to spread together with the clothes and they counted together with the clothespins they had used. In Figure 5, a grandmother found her grandaughter to put the snails she found in the yard in a queue and she counted them. Additionally, as they mentioned there were activities that were organized with the contribution of their older children, as "the infants' communication with brothers and sisters acted as a positive example of imitation. For example, a mother asked his older son to hide animal toys in a bowl of flour and her infant tried to find them. Both of them count the animals (Figure 6). The parents who kept the diary were asked to present us with different types of activities and they actually concentrated on numbers (Figure 7) and shapes (Figures 8 and 9). As it is obvious, even in the case of shapes, they were not able to present any activity organized by them.

At the specific nursery school, as parents mentioned, they were informed by the teachers very regularly about their infants' behaviour, performance and activities in different subjects, with emphasis on the learning of the Greek Language and Mathematics. A mother was excited with her infant's teacher as she understood that she organized interesting play-based mathematical activities: "My son acquired many mathematical concepts this year, and I recognize that the success is that this happened through play. Everyday when I asked him to describe his day, he told me about games, tales and creative activities. I teach chemistry in secondary education and I would be happy to find ways to enable children to construct concepts through everyday activities".

Three of the parents underlined their low self-efficacy beliefs in choosing the relevant activities for their infants as they did not have adequate knowledge. They believed that "nursery teachers could use plenty of ways in order to inform them further about their role and how to choose creative, interesting and attractive activities for their children". They wanted to "invest" in their infants' "future success in education through the qualitative time they spend together".


Figure 1


Figure 2

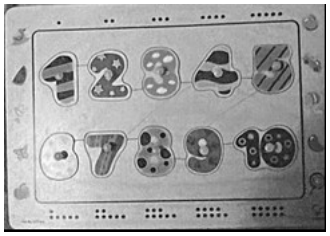
Figure 3


Figure 4


Figure 5


Figure 6

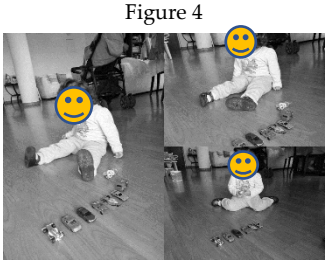
Figure 7


Figure 8


Figure 9

Figures 1-9. Indicative examples of infants' play-based activities

Conclusions and Discussion

Many previous studies have shown that several mathematical skills develop gradually and simultaneously at an early age (Parviainen, 2019). The present study confirmed that nursery teachers and parents believe in their vital role of organizing all the relevant activities in order to construct a rich learning environment for children. Both of them need to ensure that the learning environment is meaningful and enjoyable for children with a sense of playfulness and fun (Lee, 2010). Learning could be enjoyable through play experiences. As Dockett and Perry (2010) underline play has long been regarded as a critical element of the early childhood curriculum. However, the lack of Curriculum at the ages of nursery education seems to lead to limited experiences on how to use play-based activities for plenty of mathematical concepts. Nursery teachers who participated in the study believed in the use of play-based activities for understanding and teaching mathematical concepts related to all the mathematical units. We had not examined their practices; however, parents who seemed to express what they learned through their communication with teachers, used examples that included only numbers and shapes. They were not able to present examples that included measuring quantities (with a weight scale or bowl), repeating patterns at songs, tales or objects etc.

In early childhood, infants need opportunities to learn from both naturally occurring informal experiences and structured activities (Anthony & Walshaw, 2009). Informal teaching and nonformal learning are parts of everyday activities in the authentic environment. Especially parents need guidance and training on how their involvement can be productive and creative through play-based activities which offer fun, creativity, communication and indirectly learning. The present study indicated that they tried to imitate the activities which are organized by the nursery teachers and they would be grateful to have their guidance and support. Having this in mind, nursery teachers can use everyday activities of sharing, cooking, completing puzzles, counting, estimating distances, producing musical rhythms and constructing patterns at school and as suggestions for home activities.

Our results indicate the nursery teachers' positive disposition about the use of play and the necessity to teach mathematics in early childhood through interesting activities for the kids. However, there is a call

for further work by both researchers in the domain of mathematics and nursery education and teachers in the field of early childhood education in order to produce a policy for the development of a Curriculum in Mathematics and similarly in all other disciplines. As Hachey (2013) underlines, after the increased recognition of the importance of early mathematics for later academic success, early childhood mathematics education is now a national (for the United States), and we added international at the same time, priority. We believe that the quality of the nursery school mathematical activities could be improved by constructing a Curriculum for the specific ages. The policy of a play-based process under an interdisciplinary framework has to be the main characteristic of the Curriculum which will be a helpful guide for nursery teachers for their work at school and their suggestions for parents. A Curriculum poses the purpose of an educational system, the objectives, the teaching philosophy, the expected outcomes and the teaching practices. By this way, we will enable the policymakers who are responsible for the curriculum development to pose the goals and the researchers to suggest teaching methods and tools in order to use them for all students by respecting the cognitive, social and inter-individual differences. Undoubtedly the development of a policy does not guarantee the implementation of a relevant and appropriate practice. Aubrey and Durmaz (2012) examined the relationship between policy and practice in the early years' mathematics Curriculum and they indicated that teachers did not implement policy expectations as they brought their own values and understanding to practices. However, the development of a Curriculum with the respective policy is at least the first necessary step.

The present study, as a part of a project which relates the nursery teachers' beliefs and actions with the parental involvement in infants' learning, is a starting point for examining further the establishment of a framework for the teaching and learning processes that can influence positively the mathematics education during childhood ages. Undoubtedly the present study has plenty of limitations which can be the main guide for the development of future studies on the same domain: (a) The sample of the nursery teachers was not representative as we had used social media for sharing the questionnaire, (b) We had examined their beliefs which had to be examined in relation to their real actions at the school environment, (c) The sample of the parents was not representative. Especially the group of parents who had accepted to share their activities with us, they were probably parents with an extra interest in the domain, who had the time to organize many activities for their infants and who had been guided "unconsciously" by knowing the aim of the study to present activities which were related with the development of mathematical thinking (Panaoura, 2021). A future study could examine nursery teachers' knowledge, skills and practices to introduce mathematical concepts of a different domain at the age of infancy. An intervention program could examine the use of alternative training methods in order to explain to parents their role as facilitators in the learning processes of their infants.

Declarations

Authors' Declarations

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Research Article

Diversity of assessment discourses in Swedish and Norwegian early mathematics education

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Abstract: In many countries, including those in the Nordic region, there has been a growing trend towards measuring students' knowledge and understanding, a trend that is evident even in early education. This article presents a discourse analysis of mathematics assessment materials intended for six-year-olds in two neighbouring countries, Sweden and Norway. Thus, the article presents an example of early assessment in two neighboring countries with similar culture and education system. The aim is to investigate the similarities and differences between the various meanings ascribed to their assessment materials, and to discuss how these assessment materials may both influence and be influenced by early mathematics education in these two countries. The results show a diversity of discourses – both between and within the assessment materials – indicating different views on students' learning of mathematics, on when to assess, on what knowledge to assess, and on how and why to assess. Thus, even though Sweden and Norway have similar cultures and education systems, there is no consensus when it comes to when, what and how to assess the mathematical knowledge of six-year-olds.

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Introduction

The assessment and comparison of students' knowledge have become common practices internationally, even when it comes to the education of young students (International Association for the Evaluation of Educational Achievement, 2019; Organisation for Economic Co-operation and Development [OECD], 2019). A possible reason for this is that international studies show a connection between young students' mathematical knowledge and their later academic achievements (Aubrey et al., 2006; Aunio & Niemivirta, 2010; Duncan et al., 2007; Sterner et al., 2019). Meanwhile, other studies show that early focus on students' individual shortcomings may affect their self-image negatively, which in turn can impede learning (Reay & Wiliam, 1999; Räty et al., 2004).

In this article, national assessment materials from Sweden and Norway – countries with similar cultures and education systems – serve as the starting point. According to Lundahl (2017) the content of assessment material indicates the central content that teachers need to teach, and thus influences teaching form and content (Burkhardt & Schoenfeld, 2018; Volante, 2004; Wrigley, 2010). In Sweden and Norway, school is compulsory from age 6 to 16, and equal opportunity and inclusive schooling are important values (Klette, 2018). Within the context of the Nordic classroom, students are encouraged to be heard and to formulate arguments, and both Sweden and Norway aspire to differentiated and individualised teaching methods (Klette, 2018). In Sweden, compulsory schooling starts with preschool class, which is a school form in its own right (National Agency for Education, 2018): there, creative work and play are central, and the aim is to facilitate the transition between preschool and primary school (Ackesjö & Persson, 2019). In Norway, the so-called *six-year reform* (seksårsreformen) was implemented in 1997, which increased compulsory school from nine to ten years with students starting school at the age of six (Ministry of Church Affairs Education and Research, 1996). Since the reform, debate has been ongoing about the theoretical approaches used to conceptualise the teaching of six-year-olds (Ertesvåg & Ridar, 2018; Johansson, 2010). One of the key issues in that debate is the connection and cooperation between kindergarten and

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compulsory school (Ministry of Education and Research, 2008). A similar reform is planned for Sweden, which will also increase the number of years of schooling from nine to ten (Ministry of Education and Research, 2020).

Currently, a culture of assessment is apparent in both Sweden and Norway, each having material to assess the mathematical knowledge of six-year-olds (National Agency for Education, 2019; Norwegian Directorate for Education and Training, 2017). The expressed purpose of these assessments is similar in both countries, to offer equal and inclusive schooling for all students (Klette, 2018). Thus, one could expect that these neighbouring countries, with their similar cultures and education systems, would view the context of assessment of six-year-olds similarly; however, their approach to assessment differs. While the Swedish assessment material consists of four activities designed to be done orally in groups, the Norwegian assessment material consists of text-based tasks that students complete individually in writing within a set time.

This article presents an example of early assessment in Sweden and Norway – countries with similar cultures and education systems – its aim being to investigate the similarities and differences between the various meanings ascribed to their assessment materials, and to discuss the possible impact of these on early mathematics education. This study addresses the following question:

- What meanings relating to mathematics education can be ascribed to the assessment materials of Sweden and Norway?

Literature Review

According to Björklund Boistrup (2017), the system of schooling through assessment takes on a role as gatekeeper, where students are selected based on their strengths, which contradicts what official documents state should be the case. In this context, Björklund Boistrup (2017) uses the word assessment in a broad sense that includes both feedback in classroom interactions and feedback communicated by way of testing. At the same time as assessments in mathematics can have an impact on students' academic achievement, Volante (2004) emphasises how assessment design can also influence teaching content. There is a risk that the expectations of politicians, school staff, administrators and the general public can affect how teachers prepare their students for tests (Volante, 2004). Teaching with excessive focus on items similar to test items is called *teaching to the test* (Volante, 2004). According to Burkhardt and Schoenfeld (2018), "teachers *will* teach to the test", and they connect this with "What You Test Is What You Get", which according to them was summed up in research long ago (p. 577).

Burkhardt and Schoenfeld (2018) discuss the question of how to create a "test worth teaching to". According to them, this is a question of combining so-called "short tasks" and "performance tasks" in a well-balanced way. While "short tasks" are described as "focused on one fragment of mathematics that takes only a minute or two", "performance tasks" are described as "non-routine tasks involving substantial chains of reasoning" (p. 577). Burkhardt and Schoenfeld (2018) also highlight the importance of including tasks that have multiple solution paths to support classroom practices that engage students in mathematical problem-solving activities. Palm et al. (2011) argue that it is much easier for teachers to assess students' calculation skills than it is to assess students' problem-solving skills. They compared what mathematical reasoning is required to solve test tasks in different types of tests, national tests and teacher-made tests. In their study, only a small proportion of the tasks in the teacher-made tests required students to use mathematical reasoning. According to Burkhardt and Schoenfeld (2018), the doing and using of mathematics is not about a checklist of fragments to be mastered; rather, it "involves an integrated use of knowledge and practices" (p. 577). To provide opportunities for mathematical thinking, students need to be exposed to multiple approaches (Burkhardt & Schoenfeld, 2018).

According to Nortvedt and Buchholtz (2018), the debate on how to design an assessment is about not only "what we assess, but also how we assess and what conclusions we can draw from our assessments" (p. 556). Related to this, Newton (2007) emphasises the importance of clarity in relation to what conclusions we can draw by thinking and talking about "assessment purpose". Illustrating a wide

range of uses, Newton (2007) points out the importance of not locating multiple discrete purposes within a small number of misleading categories. When an assessment has multiple purposes, the result may be that these conflict with each other. According to Newton, it is therefore important to define the primary purpose or an explicit prioritisation of purposes so as to avoid this.

Nortvedt and Buchholtz (2018) argue that one sole summative assessment cannot fully reflect students' level of learning or development of mathematical thinking (Nortvedt & Buchholtz, 2018). A better test result does not necessarily mean that students have learnt more. According to Volante (2004), if teachers focus their teaching on the content to be tested, the opposite may be the case. Leder and Forgasz (2018) contend that all assessment should consider different and multiple sources of individual student performance, including classroom-based performance, in order to contribute to fair assessment. They emphasise that the use of multiple tests with different types of tasks and formats might be more equitable.

Early Assessment

A common argument for the assessment of young students' knowledge is the connection between their mathematical knowledge at a young age and their future academic performance in both mathematics and other subjects (Aubrey et al., 2006; Aunio & Niemivirta, 2010; Duncan et al., 2007; Sterner et al., 2019). According to Aunio and Niemivirta (2010), students' acquisition of counting and relational skills before compulsory schooling is an important indicator of their basic arithmetic and overall mathematical performance in their first year of school. Their knowledge of early numeracy when they begin school is a greater indicator of future school achievement than such factors as gender, age and parental education (Aunio & Niemivirta, 2010). Students who have early mathematical knowledge when they begin school benefit from this in their initial school years. Such students are at an advantage, since numerical attainment with practical problem-solving as an element increases in importance by school year (Aubrey et al., 2006). According to Duncan et al. (2007), students' early mathematical skills are a stronger predictor of later reading ability than early reading is of later mathematical achievement. However, they point out that this says nothing about what type of curriculum – "play-based" or "drill-and-practice" – best promotes these skills (Duncan et al., 2007).

An international study of the relationship between academic elements in the early school years and students' later academic achievement shows that all students benefit from exposure to advanced mathematics in their early school years. However, students often encounter content they already master and do not benefit from basic content coverage (Claessens et al., 2014). Sterner et al. (2019) and Vennberg and Norqvist (2018) conducted studies in the Swedish preschool class to investigate the effect of early focus on numbers and collective reasoning about representations. One study shows positive effects on students' number sense, an effect sustained even nine months later in Grade 1 (Sterner et al., 2019). The other study shows that the same intervention can improve long-term mathematical performance and prevent at-risk students from performing poorly in mathematics (Vennberg & Norqvist, 2018). Similar to this study, Vidmar et al. (2017) have compared early mathematics assessments in two different countries. However, the comparison was not between different assessments, but the aim was to examine the same assessment in two European countries and to analyse how well this assessment is able to predict later academic achievement. Together, the studies above indicate that early efforts to promote students' mathematical skills benefit continued learning in both mathematics and other subjects.

While there are arguments for early intervention in mathematics, challenges associated with the early assessment of students' knowledge exist. International studies show that focus on their individual shortcomings can affect students' self-image negatively as they may begin to regard difficulties with assessments as a personal trait (Reay & Wiliam, 1999; Räty et al., 2004). In the long term, focus on students' individual shortcomings can hamper their learning as they may experience the difficulties as constant (Reay & Wiliam, 1999; Räty et al., 2004). Furthermore, international research shows that students are vulnerable to the context of the survey and the social framework of assessment situations (Zohar & Gershikov, 2008). If assessment is conducted in a group, the grouping may affect the extent to which

students dare to express their own knowledge (Zohar & Gershikov, 2008). Together, the studies above describe issues with early assessment of students' knowledge.

Method

In this section, the context of the two assessment materials, theoretical and methodological framing, and ethics are described.

The Context of the Two Assessment Materials

The Swedish assessment material was implemented in 2019 to assess the "mathematical thinking" (p. 1) of six-year-olds (National Agency for Education, 2019). The title of the Swedish assessment material is "Find the Mathematics" (Hitta matematiken), and its purpose is to identify "students who show an indication of not meeting the knowledge requirements", "students in need of extra adaptations" and "students in need of extra challenges" (p. 3). Use of the Swedish assessment material is mandatory, and assessment takes place in the autumn term – that is to say, at the start of the first year of school (National Agency for Education, 2019). The Swedish assessment material comprises four activities, Pattern, Dice Games, Sand and Rice, and Playground (p. 4), which are carried out orally in small groups of students with a teacher.

The Norwegian assessment material was implemented in 2011 to assess the arithmetic skills of six-year-olds (Norwegian Directorate for Education and Training, 2017). The title of the Norwegian assessment material is "Mapping Test in Arithmetic" (Kartleggingsprøve i regning) (p. 1), and its purpose "is to find students who need extra follow-up when it comes to developing basic skills in arithmetic" (p. 4). Although use of the Norwegian assessment material is voluntary at a national level, most schools do make use of it (Nortvedt, 2018). Assessment takes place in the spring term – that is to say, at the end of the first year of school. The Norwegian assessment material consists of text-based tasks that students complete individually in writing within a set time.

This study focuses on the national assessment materials implemented by the National Agency for Education (2019) and the Norwegian Directorate for Education and Training (2017). A systematic review of similar analysis comparing assessment materials from different countries was conducted, but no similar studies were found. Other assessment materials are used with six-year-olds in Sweden and Norway, but these are not focused on in this study as these are not national assessments. For this study, an analysis was conducted of the teacher information from the Swedish assessment material and the first chapter in the teachers' guide for use with the Norwegian assessment material. These were chosen as they are equal in the sense that they describe *why*, *how* and *when* assessments are to be conducted. Thus, the discourse analysis was of written material. The assessment tasks were not analysed.

Theoretical Framing – Discourse Analysis

Through the use of discourse analysis, this study focuses on how the structure of language can have an impact on early mathematics education by both reflecting and creating the existing reality (Winther Jørgensen & Phillips, 2000). Discourse analysis is what we all do more or less unconsciously when we notice "patterns of language in use and the circumstances with which these are typically associated" (Trappes-Lomax, 2004, p. 133), and discourse analysis can be used as either a theory, an analytical tool, or both (Trappes-Lomax, 2004; Winther Jørgensen & Phillips, 2000).

A critical evaluation of discourse research in mathematics education show many different traditions of using discourse analysis (Ryve, 2011). Discourse analysis in line with Gee (2014a, 2014b) was chosen for this study as it offers both a theoretical view on and analytical tools for construing discourses. Gee (2014a, 2014b) focuses on situational and cultural differences, and provides an explanatory view on discourses. Based on Gee (2014b), a study of written language and its use makes it possible to say something about the specific contexts in which opinions and views emerge (Gee, 2014b). Gee (2014b) distinguishes between two theoretical notions, big and small discourses: this study includes small discourses only as the focus is on language-in-use (Gee, 2015, p. 1). "When we study language-in-use, we study language not just as an

abstract system ("grammar"), but in terms of actual utterances or sentences in speech or writing in specific contexts of speaking and hearing or writing and reading" (Gee, 2014b, p. 19). In this study, discourses are seen as part of a dialogical process that constantly creates and reshapes the meaning of early mathematics and early assessment in mathematics.

Discourse Analysis as an Analytical Tool

As presented above, the discourse analysis focused on what Gee (2014a) calls "small discourses". Small "d" discourse analyses focus on patterns and connections in *stretches of language* and how these can lead to interpretations and meaning (Gee, 2015, p. 2). Gee (2014a) offers 28 methodological tools by which to study such patterns and connections. Each tool consists of questions intended for text or other forms of communication. Gee points out that researchers must choose and adapt the tools to fit the selected data. In this study, nine of Gee's tools were chosen based on applicability to the research questions and the analysis of written material. Each of the nine selected tools has, in accordance with Gee (2014a), been reformulated based on the context of this study.

The Process of Analyzing the Assessment Material

Initially, two tools were used to discern between significant content of the assessment materials of both countries. *The Significance Building Tool (#14)*: What is identified as being significant in the assessment materials of both countries? What is the importance of what is written? *The Fill-In Tool* (#2): What knowledge, assumptions and conclusions must be filled in by a reader for the text to be clear? Three tools were then used to show how shorter sections of text relate to the whole context of the two texts. *The Diexis Tool (#1)*: What is taken for granted, based on the context? *The Connections Building Tool (#19)*: How are choices and omissions justified in the assessment materials? *The Situated Meaning Tool (#23)*: What specific meaning do words and concepts have, based on the context? In the next step, two tools were used to discern between intentions and between relationships in the assessment materials. *The Why This Way and Not That Way Tool (#9)*: What intentions are identified in the assessment materials? *The Relationships Building Tool (#17)*: How is the language used to build and maintain relationships between students, teachers and head teachers? After this, one tool was used to show the purposes of the assessment materials: *The Doing and Not Just Saying Tool (#7*): What purposes are stated in the assessment materials? Finally, one tool was used to show which view of mathematics appears in the assessment materials: *The Systems and Knowledge Building Tool (#21)*: How is the language used to describe mathematics in the assessment materials?

Table 1 illustrates an example of the gradual shift in focus of the discourse analysis, from significant words to a bigger picture. However, the table should be understood as circular, not linear. The questions from Gee were used more iteratively in the discourse analysis than can be illustrated in a table.

Table 1. An illustration of the process of analysing the assessment materials. Text and quotations in the table should be understood to be part of the iterative process and not the complete analysis that supports the construction of a discourse.

Tools: #14, #2	Tools: #1, #19, #23	Tools: #9, #17	Tool: #7	Tool: #21
The concepts of *activity* and *activities* are mentioned about 60 times in the Swedish assessment material. *Activity* is not defined. It is implied what activity is.	Activities should arouse *curiosity* and *interest* in mathematical content. Assess how the student: *shows curiosity and interest in the mathematical content of the activity* (p. 4-5).	The intention with activities is to arouse *interest*. *Students at this age are more dependent on the teacher arousing interest in the activity or that the activity itself is interesting* (p. 4).	Purpose, to show knowledge. *The activities are designed so that each student, in a playful way, will have the opportunity to show knowledge that is important for the development of mathematical thinking* (p. 4).	The activities are not named based on the mathematical content to be assessed. *Patterns, Dice Games, Sand/Rice, and Playground* (p. 4).

An important aspect of discourse analysis as applied in this study is that it is not about evaluating – but rather about studying the written language. I, the researcher, am familiar with both the Swedish and Norwegian school systems. Fluent in Swedish and Norwegian, I was born and raised in Sweden, and lived 12 years in Norway, where I qualified as a primary school teacher. Furthermore, I have taught mathematics

in both countries. In Norway, I was a Grade 1 teacher and therefore used the Norwegian assessment material with six-year-old students. I have not taught in preschool class in Sweden.

Results

In the results, the discourses that were construed based on the nine tools above are presented.

Discourses in the Swedish Assessment Material

The following discourses are construed and described based on the Swedish assessment material (Figure 1): curriculum discourse, competence discourse, equity discourse, activity discourse and support discourse. In the Swedish assessment material, reference to the *Curriculum for the Compulsory School, Preschool Class and the Recreation Centre* (National Agency for Education, 2018) is frequent. Below, this will be termed "the Curriculum".

Curriculum Discourse

This discourse is construed based on the significance of the Curriculum, a frequently recurring voice. Both the design and the content of the assessment material are motivated with reference to the Curriculum. For example: "The assessment is based on the Curriculum for the preschool class and the abilities that the teaching should give students the opportunity to develop" (p. 3). The Curriculum is mentioned several times, both implicitly and explicitly. However, only certain parts of the Curriculum are apparent and the focus is on the "observation points" (p. 5) to be assessed. Also, the expression "mathematical thinking" (p. 3) is often mentioned. This expression is used in the general section of the Curriculum (section 2.2), and not in the section specific to the preschool class.

Competence Discourse

This discourse is construed based on the significance of competencies as three "observation points" (p. 5) in relation to the purpose of the Swedish assessment material: "how the student shows curiosity and interest in the mathematical content of the activity", "the ability to try and use different ideas" and "the ability to communicate and reason about mathematical concepts" (p. 4-5). These three observation points are in line with two of three competencies emphasised in the preschool class curriculum: "try to develop ideas and convert the ideas into action" and "use mathematical concepts and reasoning to communicate" (p. 19-20). In the Swedish assessment material, the assessment of these is described as significant since they are considered important competencies for children to develop. At the same time, the assessment material describes how using it may also make other knowledge visible.

> Of course, the activity can provide additional information about the students' mathematical knowledge than what is described with regards to the observation points (p. 5).

There is no mention of mathematical problem-solving as an observation point, despite its mention in the Curriculum. Nor is there an explanation as to why this competence is not to be assessed despite problem-solving being highlighted as a competence that students can develop through the assessment.

> By giving students the opportunity to encounter activities of a different kind, they can develop confidence in their ability to solve problems in different situations and contexts (p. 4).

Equity Discourse

This discourse is construed based on the significance of equity and the adaptations to be made for students who may not achieve the learning goals. In the teacher information, equity is explicitly referred to on several occasions. The first sentence in the Swedish assessment material states that assessment needs to be conducted in the autumn term so that "the teacher can identify students at an early stage who risk not reaching the knowledge requirements to be achieved in year 3…"(p. 3). This appears several times and is always first mentioned in the descriptions of the purpose of the Swedish assessment material. The assessment material also states that it should "support the teacher in identifying the students in need of extra adaptations" (p. 3). Since students who risk not achieving the goals may need extra adaptations, these two aims may relate to the same students. The expressions *students in need of extra adaptations* and *students*

in need of extra challenges often appear together, which makes it seem that they are distinct groups. Also, the purpose of identifying "students who show an indication of not meeting the knowledge requirements" always comes first, followed by "students in need of extra adaptations" and finally "students in need of extra challenges" (p. 3). The intention with the identification of these three student groups in the Swedish assessment material is to contribute to equity, as those who risk not attaining the necessary knowledge can receive special support and extra adaptations (p. 7-8). The Swedish assessment material does not define which students are included in *students in need of extra adaptations* and *students in need of extra challenges*.

Activity Discourse

This discourse is construed based on the significance of *activity* and *activities* in relation to the intention to arouse interest. In the teacher information alone, these two words appear about 60 times, but they are not defined. On several occasions, the word activity is associated with playfulness.

> The activities are designed so that each student, in a playful way, will have the opportunity to show knowledge that is important for the development of mathematical thinking (p. 4).

Furthermore, activities are linked to the observation point "how the student shows curiosity and interest in the mathematical content of the activity" (p. 4-5). The importance of curiosity and interest is motivated by references to the Curriculum: "Teaching should take advantage of students' curiosity and give them the opportunity to develop their interest in mathematics…" (p. 18). The implication is that the activities in which students encounter mathematics should be designed in a way that makes them interesting. Teachers are described as being responsible for adapting and replacing activities so that students find them interesting.

> Students at this age are more dependent on the teacher arousing interest in the activity or that the activity itself is interesting (p. 4).

The four activities "Pattern, Dice Game, Sand/Rice and Playground" (p. 4) have names that say more about the game than the mathematical content to be assessed. Thus, mathematics itself does not seem to be what arouses students' interest but rather it is the doing of the activities that is interesting. Through the activities, students' interest should be both aroused and assessed. As the quotation above illustrates, students may also need help from teachers to arouse their interest.

Support Discourse

This discourse is construed based on the significance of mandatory support in the assessment material. The mandatory support relates explicitly to teachers receiving assessment support to teach students mathematics, and also to teachers receiving support to identify students in need of extra support. For example: "The assessment is a support for the teacher's continued teaching" (p. 3) and "The purpose is to support the teacher in identifying the students who… " (p. 3). The fact that assessment is conducted early in the autumn term demonstrates how teachers should receive such support at an early stage.

> The teacher can also, with the support of the assessment, discover areas that further teaching needs to focus on. Also, the material provides support in identifying the students who need extra adaptations, special support, or extra challenges (p. 3).

Because the assessment material is compulsory, all teachers must receive this support.

Discourses in the Norweigan Assessment Material

The following discourses are construed and described based on the Norwegian assessment material (Figure 1): framework discourse, arithmetic discourse, solicitude discourse, formative assessment discourse and management discourse. In the Norwegian assessment material, frequent references are made to the Framework for Basic Skills, and the National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training (Norwegian Directorate for Education and Training, 2013, 2017). In the text below, these are referred to as the Framework and the Curriculum respectively.

Framework Discourse

This discourse is construed based on the significance of the Framework and the Curriculum in relation to the intention of the assessment material.

> The test is anchored in the definition and progression description for counting in the Framework for Basic Skills and competence goals in the curriculum (p. 5).

How the competence goals mentioned in the quotation above are anchored in the Norwegian assessment material is not clear. On the other hand, the Curriculum is implicitly apparent, as *Basic Skills* are integrated into *the competence goals*. The design and content of the Norwegian assessment material are justified based on how arithmetic is described in the Framework. Four areas of skills from the Framework are described as starting points for the form and content: "Recognise and Describe, Use and Process, Reflect and Evaluate, and Communication" (p. 5). The Norwegian assessment material measures and is based on competence at the lowest level in two of the four skill areas: *Recognise and Describe*, and *Use and Process*.

> The test is adapted to this level. The assignments thus measure competence at the lowest level in the description of progression for arithmetic in *the Framework for Basic Skills* (p. 5).

The Norwegian assessment material does not state why the two areas of *Reflect and Evaluate* and *Communication* are not assessed. However, the omission of these skills is explicitly described in the Norwegian assessment material.

Arithmetic Discourse

This discourse is construed based on the significance of arithmetic in relation to the purpose and the title of the Norwegian assessment material, "Assessment Material in Arithmetic" (Kartleggingsprøve i regning) (p. 1).

> The purpose of the assessment is to find students who need extra follow-up when it comes to developing basic skills in arithmetic (p. 4).

The tasks in the Norwegian assessment material are connected to *numbers*, which is one of the four areas highlighted in the competence goals in the Curriculum. There is no reason given as to why the other three areas (*geometry*, *measurement* and *statistics*) are excluded or why the Norwegian assessment material deals with only one of four areas in the Curriculum. However, there is a detailed explanation of how the selected area of *numbers* can, in turn, be divided into four themes: "counting skills, number concepts, number series and number line, and arithmetic skills" (p. 6). There is no explicit reason given as to why these four themes should be assessed or where they derive from, as they are not used in the same way as *numbers* is in the competence goals in the Curriculum.

Solicitude Discourse

This discourse is construed based on the significance of solicitude in relation to the intention of comparing students' results with a specific *limit of concern*. The Norwegian assessment material states explicitly that it should not provide information about all students at different levels, only those "who need extra follow-up" (p. 3).

> The only thing we can say about the students who accomplish a lot, or everything, on the test is that they have sufficient skills as a basis for further learning, but we know little about how much they really know (p. 3).

The purpose of the Norwegian assessment material is to "find out if there are students who have not acquired the necessary skills in initial education" (p. 3). To find the students who need extra follow-up, teachers and head teachers are encouraged to look at students' results in relation to *the limit of concern* (p. 3-4). Students with results that place them as the lowest 20 percent in the country are defined as on or below the *limit of concern.* The Norwegian assessment material states that the results of these students should be assessed together with other information about the student before a decision is made as to whether they need follow-up. This means that one fifth of all students may need some form of solicitude to be able to assimilate the continued teaching.

Formative Assessment Discourse

This discourse is construed based on the significance of formative assessment in the Norwegian

assessment material. The notion of formative assessment is used and described in terms of what teachers are expected to do before, during and after assessment. By assessing students, teachers acquire information that will benefit their future teaching.

> The test results can be seen in connection with other information about the students and as part of formative assessment and adapted teaching (p. 6).

The voice that advocates formative assessment is the *Regulation to the Education Act*, §3-10, where a model for formative assessment is described (Ministry of Education and Research, 2009). In the Education Act, four principles are referred to as being particularly important in formative assessment, which is also described in the assessment as central to the work with assessment material. Three of these four principles are highlighted as important in the Norwegian assessment material.

> The students' capability for learning can be strengthened if the students understand what they are supposed to learn and what is expected of them; if they receive feedback that tells them about the quality of the work or performance; and if they are involved in their own learning through assessment of their own work and development (p. 6).

Management Discourse

This discourse is construed based on the significance of management in relation to the responsibility of the head teacher to conduct the assessment. The head teacher is responsible for preparing, implementing and finishing work that relates to the Norwegian assessment material at the level of both group and individual student.

> The head teacher has the overall responsibility for ensuring that all students are assessed (p. 3).

It is also the head teacher who is described as being responsible for arranging the assessment material for students who have special needs. Additionally, it is the head teacher who must be helped to identify students who need extra follow-up. This applies to both small schools with one class per age group and large schools with several parallel classes.

Conclusion and Discussion

According to Gee, the study of written language and its use makes it possible to say something about the specific context in which opinions and views arise (Gee, 2014b). Thus, in this discussion, the discourses presented in the result will be discussed in relation to their context and different views on early mathematics assessment.

This article focuses on assessment material from two neighbouring countries that have similar cultures and education systems (Klette, 2018). Although their assessment materials are for use with six-year-olds, their content and context of implementation are somewhat different. The results show five different discourses in both the Swedish and the Norwegian assessment material, with slight differences between these discourses (Figure 1).

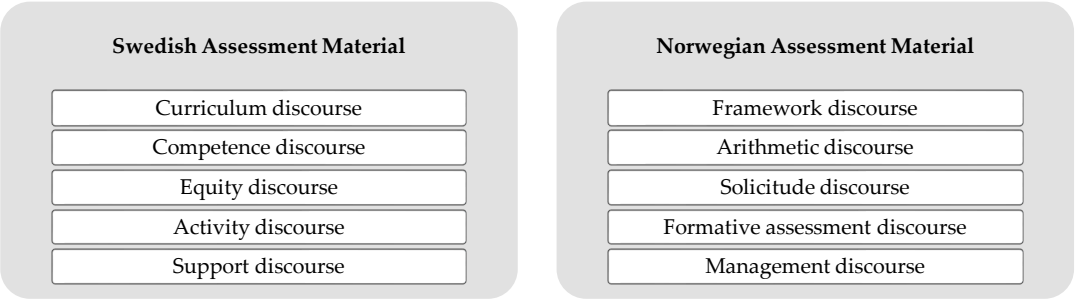

Figure 1. The five discourses in the Swedish assessment material and the five discourses in the Norwegian assessment material.

The Curriculum and the Framework are central in both countries, while there are differences in *when* the assessment is to be conducted, *what* to assess, and on *how* and *why* to assess. Implications of these differences are discussed in the next sections.

When the Assessment is to be Conducted

The Swedish assessment is to be conducted at the start of preschool class, in the autumn term. This is described in the support discourse and equity discourse. Based on when the assessment is conducted, it can be perceived that all teachers need external support before teaching. In contrast, the Norwegian assessment takes place in the spring term, which means that teachers first teach the students and then assess them to identify those in need of extra support. Based on the solicitude discourse and the time the assessment is conducted, possible problems are assigned to the students as individuals. The focus on students as individuals is strengthened by the formative assessment discourse and the management discourse.

As a result of the timing of the assessment, the risk of *teaching to the test* is greater in Norway than it is in Sweden. According to Volante (2004), preparing students for tests by focusing on items similar to test items is called *teaching to the test*. Because the assessment in Norway takes place in the spring term, teachers teach their students before conducting the test; meanwhile, assessment in Sweden takes place at the start of the autumn term, most likely before teaching begins. In Sweden, the greatest risk of teaching to the test is in preschool.

What to Assess

A curriculum/framework discourse is apparent in both the Swedish and the Norwegian assessment material. Despite the discourse analysis demonstrating that the national curriculum of each country is adhered to in the respective assessment material, it is notable that focus is only on selected parts of each one. The Swedish assessment material assesses "mathematical thinking" of six-year-olds in the four activities "Pattern, Dice Game, Sand/Rice and Playground" (p. 4). The competence discourse describes how the assessment material assesses three "observation points" (p. 5): "how the student shows curiosity and interest in the mathematical content of the activity", "the ability to try and use different ideas" and "the ability to communicate and reason about mathematical concepts" (p. 4-5). The Norwegian assessment material assesses the arithmetic skills of six-year-olds, and the tasks are divided into four themes: "counting skills, number concepts, number series and number line, and arithmetic skills" (p. 6). The framework discourse describes how the assessment material measures competence at the lowest level in these two skill areas: *Recognise and Describe*, and *Use and Process* (p. 5).

What is assessed in the Swedish assessment material can be related to the activity discourse. Playful activities are the "good" and "true" way to assess and teach mathematics to young students. Furthermore, young students require that the teacher arouse their "interest in the activity or that the activity itself is interesting" (p. 4). Even so, it is unclear what is being assessed. According to Newton (2007), it is important to clarify "assessment purpose" and not use multiple discrete purposes within a number of different categories. Multiple purposes may result in conflicting purposes, and thus, not knowing what conclusions it is possible to draw from the assessment (Newton, 2007; Nortvedt & Buchholtz, 2018). In the Swedish assessment material, it is not clear what is being assessed – the teachers' ability to arouse interest among students and/or the activities ability to arouse interest in the students and/or the mathematical knowledge of the students? What is unstated yet taken for granted, is that students should show interest in the activities. According to the Swedish assessment material, students who do not show an interest must be considered in the teachers' continued planning and teaching. What the Norwegian assessment material assesses can relate to the arithmetic discourse and be justified with research on early numeracy. Aubrey et al. (2006); Aunio and Niemivirta (2010) argue that the level of students' numeracy skills increases in importance by school year, and early numeracy has a greater impact on later school achievement than factors such as gender, age and parental education. Thus, focus on arithmetic is in line with research studies that show the importance of early mathematical skills (Aubrey et al., 2006; Aunio & Niemivirta, 2010; Duncan et al., 2007). To help address the differences in ability between children, the early identification of

students in need of extra support is essential. However, according to Duncan et al. (2007), early identification does not say anything about which curriculum type is most effective: "play-based" or "drill-and-practice-based".

The discourse analysis indicates a difference when it comes to the kinds of tasks in the Swedish and Norwegian assessment material. The Swedish assessment material includes "performance tasks", which can be described as "non-routine tasks involving substantial chains of reasoning" (Burkhardt & Schoenfeld, 2018, p. 577). The Norwegian assessment material includes "short tasks", which can be described as tasks "focused on one fragment of mathematics that take only a minute or two" (p. 577). Neither of the assessments is what Burkhardt and Schoenfeld (2018) would call well-balanced – a combination of "short tasks" and "performance tasks" (p. 577).

How to Assess

The discourse analysis indicates that there are differences between the assessment materials of the two countries in terms of *how* to assess. The Swedish assessment material consists of four activities that are carried out orally in small groups of students with a teacher. The Norwegian assessment material consists of text-based tasks that students complete individually in writing within a set time.

The design of assessment material may affect teaching content. Teaching with a focus on items similar to test items is called *teaching to the test* (Volante, 2004). Assessment with "short tasks" (Burkhardt & Schoenfeld, 2018) that are to be completed within a set time (as is the case with the Norwegian assessment) may result in less teaching about complex mathematical problems with multiple solution paths. The risk of "teaching to the test" (Burkhardt & Schoenfeld, 2018; Volante, 2004) is more apparent in the Norwegian context of mathematics education for six-year-olds than it is in the Swedish context. This is because the Norwegian assessment tasks can be readily replicated for use with only minor variation. In the case of the Swedish assessment material, the risk of teaching to the test decreases since tasks are completed orally in groups. Nevertheless, one issue to be aware of in relation to the Swedish assessment material is that research shows that working in groups may affect the extent to which individual students dare to show their ability (Zohar & Gershikov, 2008). In Sweden, the greatest risk of teaching to the test is in preschool, since the Swedish assessment material is used at the start of the autumn term. Thus, the risk of teaching to the test exists in both countries, be it in different ways. At the same time, both the Swedish and the Norwegian assessment materials describe the abilities to be assessed, which may encourage teachers in both countries to focus their teaching on abilities rather than solely on specific tasks.

Why to Assess

The Norwegian assessment material has a clearly defined purpose: the identification of students in need of follow-up and extra adaptations (p. 3). Also, it specifies both what the results can be and what they should not be used for. The formative assessment discourse and the management discourse in the Norwegian assessment material stipulate that the head teachers are responsible for ensuring that students at or below *the limit of concern* receive follow-up. In the Swedish assessment material, several aims are stated: the purpose of identifying "students who show an indication of not meeting the knowledge requirements", "students in need of extra adaptations" and "students in need of extra challenges" (p. 3). These different aims may make it unclear how assessment results are to be used. Also, the discourse analysis indicates that the Swedish assessment material is useful for the purposes of both assessment and learning. However, it is not clear whether the teachers should assess students' mathematical knowledge from previous years and/or whether they should assess what the students learn during the assessment. According to Newton (2007), several goals without a clear ranking can end up conflicting with each other.

According to Palm et al. (2011), it is much easier for teachers to assess students' calculation skills than it is to assess students' problem-solving skills. Perhaps this is why the Norwegian assessment material, which consists of "short tasks", may be easier for the teacher to use than the Swedish assessment material, which consists of "performance tasks" (Burkhardt & Schoenfeld, 2018). According to Nortvedt and Buchholtz (2018), however, one sole summative assessment cannot display learning or development of

mathematical thinking. In order to contribute to fair assessment, all assessment should consider different and multiple sources of individual students' performance (Leder & Forgasz, 2018).

Implications

The results of this study provide a big-picture view, here and now, with awareness of the fact that the context of the assessment materials of both countries is constantly changing. For example, from 2022, the Norwegian assessment material will be conducted digitally. Furthermore, in 2020, a new Norwegian curriculum was introduced (Norwegian Directorate for Education and Training, 2020): in it, play was given a more prominent role than in the curriculum referred to in the Norwegian assessment material. A greater focus on play may be seen as a reaction to the theorising of the schooling of six-year-olds (Ertesvåg & Ridar, 2018; Johansson, 2010). In Sweden, an opposite development can be seen with the implementation of a 10-year primary school education where preschool class will become Grade 1 (Ministry of Education and Research, 2020).

In this study, similarities and differences between the various meanings ascribed to the assessment materials of Sweden and Norway are investigated and discussed. Thus, the article describes an example of early assessment in two neighbouring countries that have similar cultures and education systems. The results show a diversity of discourses, which indicates different views on young students' learning of mathematics in terms of when to assess, what knowledge to assess, and on how and why to assess. Thus, insights from this comparative analysis can contribute to a more nuanced picture of early mathematics assessment. This article invites educators and policymakers to reflect on their assessment practices in mathematics classrooms with young children. Even though Sweden and Norway have similar cultures and education systems, there is no consensus as to when, what, how and why to assess the mathematical knowledge of six-year-olds.

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Embedding character education into an early childhood classroom through service-learning

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Abstract: The implementation of service-learning in early childhood education classrooms has not been well documented, and the links to service-learning and the potential effects on character education are scarce at best. In this paper, a service-learning pedagogy is presented as a way to enhance character through education with the youngest learners: children in an early childhood classroom. This study examines the experiences of both teachers and children in an early childhood classroom participating in the form of a service-learning pedagogy for a year, and investigates the social emotional and character development of the young children participating in the classroom. Through the implementation of service-learning in early childhood classrooms, it is possible to grow and create a generation of learners who connect academic curricula through projects that deal with real community needs. With an emphasis on building relationships and making connections, service-learning the authors suggest, is an approach that can allows teachers to maximize children's strengths, while at the same time building character and positive social and emotional traits.

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Introduction

Recent studies have highlighted the progressive use of a praxis educational model with students in higher education early childhood preparation programs in the United Kingdom (U.K.) and in the United States (U.S.) (for example, Pascal & Bertram, 2012; Winterbottom & Mazzocco, 2015). However, the implementation of service-learning in early childhood classrooms has not been well documented, and the links to this type of research and the potential impact on character education are scarce at best. Historically, service-learning has been linked to helping children connect the curriculum through projects that deal with real community needs, and with an emphasis on building relationships and making connections, allowing teachers to maximize children's strengths, which allows all learners to be successful (Lake & Winterbottom, 2010). For example, children with challenging behaviors, English language learners, and children with exceptional needs have all benefited from using a service-learning pedagogy. This study examines the experiences of both teachers and students in an early childhood classroom that used a service-learning pedagogy for a year, and investigates if the integration of this type of teaching methodology had an impact on the character development of the young students participating in the classroom.

How is Service-Learning Practiced?

A service-learning educational model is participatory, democratic, and collaborative in nature, and in early childhood is best practiced by those who are committed and close to the real world of young children and their families (Winterbottom & Mazzocco, 2015). This pedagogy is grounded in real world situations, and is carried out by practitioners, in collaboration with the community at large who have a direct and passionate investment in what is occurring inside the classroom; it is largely carried out as collaboration with people in context and not to people (Freire, 1970). Moreover, service-learning is done in the company of peers, construing the domain of education as contingent on interactions and relationships

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(Pascal & Bertram, 2012). Through action and interaction, it is the praxeology that drives the curriculum revealing underlying assumptions and helping to generate new epistemologies. Conversely, it also reveals how teachers can change their approaches to working with young children and their families.

Types of Service-Learning

In the early childhood classroom (for this study early childhood is defined as 48-60 months old), service-learning can be used as an instructional strategy to meet learning goals and/or content standards. The components of effective service-learning include planning and preparation, action, and reflection. During these components, especially in the planning and preparation, diversity, youth voice, and collaboration should be clearly visible (Lake & Jones, 2008).

During the reflection phase of service-learning the students are asked to incorporate multiple reflection activities (for example, through artwork, dialogue, or music) that are ongoing and that prompt deep thinking and analysis about oneself and one's connection and relationship to their community; for young children community does not have to reach outside of their classroom, it can be their immediate classroom or the school. Diversity should be incorporated through a promotion of understanding of diversity and mutual respect among all participants and partnerships. Moreover, it is essential that the children have a voice and collaborate to maintain a powerful/meaningful working relationship. This aligns with the United Nations Convention that children should have a voice, and should be fully prepared to live an individual life in society, but be brought up in the spirit of peace, dignity, tolerance, freedom, equality and solidarity (Convention of the Rights of the Child, 1989).

Finally, during the progress monitoring stage of service-learning, the students should be engaged in an ongoing process to assess the quality of implementation and progress toward meeting specified goals. Examples of projects that students collaborated on for this study included feeding and building shelters for animals and creating a kindness quilt to help build the school community.

Strengths and Limitations of Service-Learning

Service-learning is only one of a myriad of exemplary pedagogical approaches in early education, and has, of course, both strengths and limitations. Service-learning at its' root is focused on examining child-pedagogue community practice and exploring what works for teachers and why. This epistemology is then used to inform teaching and learning, and provides a framework for shaping future learning. To this point, a lot of the evidence that has informed practice has been imposed on the educational field from external sources (Pascal & Bertram, 2012; Winterbottom & Mazzocco, 2015) but using a service-learning approach teachers can potentially advocate change and reform from within outward.

A key strength of this approach is that those involved in practice can identify ways to improve their teaching methodology, their classroom, and their school, and take responsibility for this action, inspiring and generating collaborative learning and action. Moreover, teachers informing their practice via this paradigm can give a close account of what works, including how and why, therefore ensuring credibility and utility in the real world of practice. Finally, and critically for those who work with young children and families, it has an ethical and values transparent stance (Pascal & Bertram, 2012). Families can become engaged with their child's learning, and be a part of the school community and the wider society.

The limitations for practitioners using this pedagogical approach are also acknowledged. As in any theoretical paradigm that does not involve larger-scale interactions, it necessarily focuses on specific contexts and smaller numbers and its transferability to teacher training programs is therefore influenced by locality of context (in this case a Head Start early childhood program).

Service-learning is also not able, nor does it set out, to show any kinds of cause and effect, or to support comparisons or predictions. It takes time to build relationships with the community and with *collaborators*, which involves a deep attachment and ongoing commitment to projects that is not always possible to dedicate to the pursuit of knowledge. Therefore, because of this type of pedagogical framework, this kind of teaching methodology is sometimes seen to have less credibility and utility to guide policy

decisions due to lack of perceived rigor in method.

Character Education

The objectives of integrating character education is to create a community within a school, where faculty and staff are modeling the same moral values as the students, where all stakeholders are reflective in their practice and behavior, where caring is reciprocated between adults and children, and where all involved are working toward a common goal via organized planning (Robinson & Kecskes, 2010). In this study we define character education as integrating and teaching *(1) relationship virtues*: for example, respect, fairness, civility, and tolerance (2) *performance virtues*: for example, diligence, self-discipline, effort, and perseverance, (3) or a combination of the two (Robinson & Keckses, 2010). These efforts help create a network of *pro-social relationships* among all teachers, students, parents, and administrators, in a school. In an ideal setting, the promotion of teaching character and values permeates all parts of the school, including academics, disciplinary procedures, governance, the mission, and beyond.

Examining the research literature of character education includes the seminal work of Goldstein (1999), Kohlberg (1981), and Noddings (1984). The connection between these scholars (caring, moral education, virtues) can be found in the pedagogy of service-learning in early education programs. Noddings (1984) suggests that one way for students to engage in *caring* behavior is for them to engage in consistent service activities in the school or community. The authors believe service-learning is an opportunity where students can collaborate with the community, an expectation of this work would be a true apprenticeship in caring.

The work of Goldstein (1999) examined the theories of Noddings but also Vygotsky. In this work, Goldstein espoused how Vygotsky resisted the separation of cognition and affect, emphasizing the existence of a dynamic system of meaning in which the affective and the intellectual unite and that Vygotsky himself saw affect and intellect as interconnected and inseparable.

In much of his work, Kohlberg (1981) attempted to capture and label the logic behind specific actions and virtues and thereby define one's level of moral reasoning. Such virtues as honesty, integrity, fairness, respect, and responsibility can be taught and practiced through service-learning projects. Characteristics such as character education, particularly moral reasoning, occur as a *hidden curriculum* when students unintentionally practice personal virtues through service-learning projects. It is the role of the teacher educator to expose the hidden curriculum and engage preservice teachers through discussions and actions.

Examining Character Education in Early Childhood

In early childhood classrooms, children can learn effectively via teacher modeling (Noddings, 1984). Children emulate the adults around them, so naturally this applies to doing the good along with the bad. Noddings (1984) suggests that defining what it means to care to young children is important, but what is paramount is showing "in [our] own behaviors what it means to care…[by] demonstrating caring in our relations with them" (p. 154). Brownlee et. al. (2012) also focus on the concept on rules and values with young children, as teachers discuss the importance of modeling to children.

Berkowitz and Bier (2004) discuss the necessity for positive interaction from teachers to facilitate the development of character in young children. Early childhood age children already begin to understand the concept of doing the right thing and during this period of their lives, young children are able to empathize and show concern for others well being, as well as understanding abstract concepts (Johansson et al., 2014). The ability to understand these concepts enables young children to comprehend why it is discouraged to hurt others, not include others, or be unkind. With this foundation, young students are able to see the benefit of doing well for others, as they would like to have done for themselves. In the simplest terms, and for this study teaching children to be kind to each other and those in the community defines character education in an early childhood classroom. This study seeks to enrich early childhood classrooms with service-learning to build upon skills taught within character education.

Methodology

The theoretical perspective that drove this study is derived from a theory of praxeology. A Praxeological-learning theory adheres that learners produce knowledge, and teachers should empower them to seek social transformation through constructing and finding ways to solve problems using their own comprehension (Pascal & Bertram, 2012). A Praxeological-learning theory involves and is contextualized by the smaller group and the larger; rooted in the early work of Dewey (1916), Piaget (1954) and later by Wenger (1998) praxeological-learning theory is always situated within a specific context and so embraces localism but it is also democratic and participatory in the wider sense of society.

Participants

Using a mixed-methodology, specifically semi-structured interviews, observation, artifacts (qualitative), and examining student social/emotional development this case study focused on children and participating children and teachers attending a Head Start early childhood program in Midwestern United States. This Head Start has been in operation for over 30 years, and was originally built with the dual purpose of serving the child care needs of children, staff, and faculty from the university associated with the program. However, the early childhood program enrolls children from 6 weeks of age through kindergarten from members of the community as well as university children and provides family support, guidance, and education to the community. The preschool is operational for 11 hours a day, and is licensed by the State Department of Job and Family Services as well as being accredited by the National Association for the Education of Young Children.

The preschool has a diversified, well-trained staff selected for their ability to nurture and provide educational experiences for young children and provide support to families. Enrollment is conducted by a member of the family service team, who remain accessible as a resource and support to families. Each classroom has two full-time caregivers/teachers, one of whom is the primary caregiver to each child. Eighteen young children participated in this study and 2 full time teachers. The participants' ages in this study ranged from 48 months to 60 months.

Permission and Ethics

After receiving permission from the university's Office of Research Compliance (ORC), an email was sent to the director/owner of the preschool to ascertain permission from teachers, parents, and finally verbal consent from the children to participate in the study. Once permission was granted from all participants in the study, all observation, artifact collection and interviews could begin to occur, and data was collected by the authors. Pseudonyms have been given to both students and teachers to provide anonymity.

The initial design of the project, permission was granted by the university's institute review board (IRB), and as would be expected, careful reference was made to ethical guidelines (British Education Research Association [BERA], 2004). Moreover, to consider the balance and harm and effect on the children, confidentiality and issues of informed consent were taken into consideration (Alderson, 1995). Reference was also made to the principles and ethical guidelines developed by the National Children's Bureau (2002, 2003) applying particularly to research with children.

Implementation

In the summer, during pre-service training, the participating teachers and administrators attended a two-day workshop (author instructed workshop) on what service-learning is, integrating service-learning into existing teaching strategies, and ways to implement this type of pedagogy in an early childhood classroom while not distracting away from the ongoing curriculum. From the fall, the participants integrated service-learning with the children in their classrooms to implement the strategies learnt in the training (a graduate student familiar with service-learning was assigned to provide support and assistance to the teachers throughout the year as needed).

To begin the service-learning projects, the teachers read books and topics that were familiar to the children (recycling, animal habitats) and started to discuss and plan possible service-learning projects that

they could all do together. Ultimately, the children decided on 1. Building habitats for the local wildlife (Bird houses for the Owls) and 2. Creating a kindness quilt for their peers in the school to create a school community, where each class could contribute and students could use to make them feel better if they were feeling sad, upset, or lonely.

At the beginning of the fall semester and at the end of the spring semester each participating child was assessed (using the Ages and Stages Questionnaire social/emotional development). As well as the qualitative artifacts, these results were also analyzed to see if the service-learning pedagogy had a positive impact on the children. Moreover, the children were asked 5 semi-structured interview questions to ascertain their involvement in the projects. The teachers completed a survey to discover if they believed the service-learning pedagogy made a difference.

Data Collection and Analysis

As part of the first round of data analysis, the raw field notes were coded and conclusions were initially drawn from the data (Miles et al., 2014). A sequential analysis was further implemented to ensure a more robust set of findings. In this study, field notes were recorded during the interviews with the children and analysis of the artifacts created by the children. The data notes and field notes were then read and re-read before being coded descriptively, by topic, and finally analytically (Winterbottom, 2012); memos were developed and tentative trends emerged from the data. To ensure a reliable interpretation of the data the author checked the data and findings independently with a graduate student. The findings were then integrated with the theoretical constructs and the literature. Data obtained from the interviews were transcribed verbatim and subsequently analyzed. The interviews were read and reread several times and memos were written while reading through the transcripts. Specifically, each participant's transcript, phrases, words, thoughts, feelings, or patterns that were common or repeated were circled and highlighted to ascertain if there were any relationships across the data (Bowen, 2009). The semi-structured interview questions provided the initial codes, which were then merged into common themes.

After coding, sets of transcripts were compared by the author to ensure dependability and reliability of the data. For example, children's experiences in the classroom environment were an initial code, as was community engagement. Once the initial relationships were established, the researcher made quality checks throughout the course of the study, including coding checks, checking for bias, and participant knowledgeability (Miles & Huberman, 1994). To test the dependability of the data collection and data interpretation we also used member-check and peer debriefing to test the reliability of our data collection and data interpretation.

Findings and Discussion

Through recording of interviews and subsequent transcription, we found common themes within the children's responses to interview questions. The interviewer asked the children the same questions: explain the service-learning project, how it helped others, what they learned from the project, and things they have done to be helpful. The following themes of positive words, positive deeds, positive feelings, and off-topic responses were used to code responses.

Positive Words

In keeping with the work of Robinson and Keckses (2010), we defined character education as integrating *relationship virtues* and *performance virtues* within the pedagogy. As the teachers integrated praxeological-learning into their classrooms the goal of character education was to create a community within a school, where the faculty and staff model positive virtues and moral characteristics. For example, when discussing positive attributes because of the projects Charles responded by saying,

> I'm kind to my brother and share my toys and when my brother asked me can yeah he can and he watched tv and see what i went um pick and he said i wanna and he said i wanna watch scooby-doo that way and then be kind.

During the interview process, when asked what they had been doing through the school year, the children responded using positive libretti. For example, when the interviewers asked the students to

describe what they thought of the service-learning they said that it was "good," and that they enjoyed being "kind." (See table for examples) The students also answered with using kindhearted words when speaking to others, when asked how the project was helpful. This suggested that the children understood (even at a young age) that when we are being kind to others, it is important to use positive words, instead of words that would hurt others' feelings (For example, the students indicated during the interviews that they should "not call names" and that it wasn't nice to "say potty words"). These actions from the children were apparent when they made the decision to build houses for the wildlife close to the child development center so they had a place to shelter. The children worked together to create the habitats, and then spoke shortly after the activities how it affected them. For example, Gavin described how he started to include the other children in the classroom in his play,

> I'll be kind how do you be kind; um play with wheels and carter yeah finn. You're spider-man and I tell you you're iron man then then I took care of your captain america I told audrey you're batman girl, then, I told um johnny her supergirl, now I told Mia - batman.

These characteristics are generated from both the teachers as well as being active participants in the projects that they worked on. As indicated by Noddings (1984), instructors of young children play a larger role in character education by being the example in what they say and do in the children's presence.

Positive Deeds

In this early childhood development stage, the children are already beginning to understand the concept of doing the right thing and during this period of their lives, they are able to empathize and show concern for others well being, as well as understanding abstract concepts (Johansson et al., 2014). The ability to understand these types of concepts enables these students to comprehend why it is discouraged to hurt others, not include others, or be unkind. For example, while building the habitats the children understood that the goal was to make the animals safe, an in turn they reflected on their own actions in the classroom. Amanda stated this well when she said,

> "…like when you help someone um you get calmed down and you help someone kind but first when you do something that's angry and you've hurt someone and you have to calm your body down slowly and you have to to say kind words to them."

With this foundation, young students are able to see the benefit of doing well for others; In the simplest terms, teaching children to be kind to each other and those in the community defines character education in early childhood classrooms. One of the major themes emanating in this study highlighted the students wanting or learning to do good deeds, or "do good" for others. When the students were asked, "How did the project help other people?" many responded with answers relating to kindness or "being kind." Other participants acknowledged sharing or helping others in their responses. When asked how the kindness quilt project helped others, one child responded, "trying to share with all the friends…I shared." A majority of the children responded with "being kind," when asked how they helped others, or explained how they helped a peer or caring adult; "I helped [Charlotte] write her name." Some children described "good deeds" as the opposite of actions that could hurt others, such as "no punching and no kicking," or described the importance of including others in play, with one child's response "play with [Connor]" Through these responses, we have inferred that children perceived being kind as being helpful to others, along with doing a service to help others (see Table 1 for examples). This theme aligned with the assertion of Berkowitz (2012) who explained the main influence on the development of a child's character is how other people treat the child. In this case, the students were collaborating together and interacting with each other in a positive manner.

Positive Feelings

Students' responses regarding character education identified positive outcomes related to time management, collaboration, and communication. Brandes and Randall (2011) reflected on how a civic responsibility can lead to a heightened self-worth. The research literature also suggests that these outcomes may be the foundation for future civic involvement. The theme of positive feelings emerged through the children's responses when asked to describe the project, what they learned from the project or what they

had done to be helpful (highlighting the work of Brandes & Randall, 2011). For example, when asked to explain the kindness quilt project, one student described another student being happy because "we did stuff for her to be happy." Another child, when asked what they learned from the project, described that "it feels good" when they are kind to others. A third child uses the description "it feels good when I help people because it feels like my body's calming down." These descriptions allow us to infer the internal effects of "doing good" for others, and how young children internalize the positive feelings received from being helpful through praxeological-learning.

We believe that when instructors in an early childhood setting introduce a service-learning pedagogy into the classrooms it can be assumed the positive benefits that align with character development will be evident, as they get older. Additionally, some of the associated benefits of introducing service-learning include academic improvements as well as pro-social values and behavior. In the quantitative analysis we focused on the participants social/emotional growth.

Table 1. Examples of the activity and the noteable comments from the children

Child	Activity	Noteable Comment
Andrea	Building Habitats	I help my friends, when they fall i help them
Ariah	we joined the sunshine the sunshine room and the schools joined us joined us and what kindness crew	That from being kind of feels good
Amanda	Building Habitats	like when you help someone um you get calmed down and you help someone kind but first when you do something that's angry and you've hurt someone and you have to calm your body down slowly and you have to to say kind words to them
Charles	Kindness Quilt	we're going to more kind of school because everybody's been kind now it's getting even bigger
Connor	Kindness Quilt	be good be good how do you be good; that means you be kind what do you do to be kind you actually have to share to being kind
Jack	Kindness Quilt	we don't know when we made our kindness quilt how did it help other people
Gavin	Building Habitats	i'll be kind how do you be kind; um play with wheels and carter yeah finn. You're spider-man and i tell you you're iron man then then i took care of your captain america i told audrey you're batman girl, then, i told um johnny her supergirl, now i told mia batman
Beth	Building Habitats	audrey had to make her herself happy because oh because when she has to be happy because we did stuff for her happy
Adam	Building Habitats	i say we being kind
Shauna	Kindness Quilt	to be happy and help other people

How Can Character Education Be Used in the Classroom?

Although these are simple actions for children to learn, they are demonstrating caring behaviors by acknowledging their peers and their teacher and using manners. Teachers play a large role in character education, not by teaching or telling students about what it means to care, but by being the example in what they say and do in the children's presence.

Aside from modeling wanted behaviors, involving young children in service-learning helps instill the need for caring and citizenship. Participating in experiences where students work with an adult in their environment to complete a project to better their surroundings helps them take ownership and develop a sense of pride (Noddings, 1984). Additionally, it should be advocated for children to be involved beyond the immediate school environment and participate in service-learning in the local community. Activities such as cleaning up a park, volunteering in a homeless shelter or hospital can introduce children to places outside of their classrooms, allowing them to see how areas of the community are connected (Noddings, 1984).

By understanding what caring means, seeing it demonstrated by teachers and other adults, and then participating in service-learning projects that put caring into action, children are able to better understand the importance of being a caring citizen in the classroom and beyond. Although seemingly simple, this puts great responsibility on the caring adult in the room, the classroom teacher. Through service-learning, as demonstrated in our study, young children are able to work alongside the teacher or caring adult in the classroom. Participating in projects within the classroom and community allow young children to learn first hand while observing caring adults also working toward a common goal.

For this study, the authors believed that the purpose of character education is to educate young people about morals, values, citizenship, and doing what is virtuous (Vargas & Gonzalez-Torres, 2009). Arthur et al. (2014) defines character as, "who we are and who we become and includes, amongst other things, the virtues of responsibility, honesty, self-reliance, reliability, generosity, self-discipline, and a sense of identity and purpose." (p. 3) It goes without argument that the qualities mentioned are those that benefit classrooms, schools, and communities when embodied by young children.

In this study, we wanted to specifically determine the function and suitability of service-learning as a suitable pedagogy for enhancing character through education with the youngest learners: students in an early childhood classroom. Through examining the development of character in a character education program we needed to define what character education looked like in early childhood, how it is taught, the role of moral education, its effect on how children develop, and the benefits of having character education in early childhood.

Further Discussion

Through the use of a pedagogical element of praxeological-learning, the participants in this study were engaged in a service-learning classroom. The research goal of the study was to specifically determine the function and suitability of service-learning as a suitable pedagogy for enhancing character through education students in an early childhood classroom. Through examining the development of character in a character education program defined what character education looked like in early childhood, how it is taught, the role of moral education, its effect on how children develop, and the benefits of having character education in early childhood. Using the recordings of interviews and subsequent transcriptions, the authors found common themes within the children's responses to interview questions: positive words, positive deeds, and positive feelings.

Historically, researchers of early childhood have often debated how character education should be integrated in their classrooms (Lake & Winterbottom, 2010), and as a result it has not been an integral concept. Similarly to the work of Berkowitz (2012), we believe that character education should be defined as educating children and helping to make informed decisions on how to make the correct or incorrect choice at any given moment. To be able to do this, the teacher should foster the ability to choose to do the *right thing* by engaging the learner in meaningful experiences. Integrating academic content while working in real world situations, and carried out by practitioners, in conjunction with the community at large who will have a direct and passionate investment in what is occurring inside the classroom and in society is a potential way to build character development that is missing in a lot of schools today.

In this project, the teachers, children, and the community worked on providing habitats for the local wildlife, while at the same time creating a kindness quilt for the other students in the school. Through teaching respect (for the environment we live in), civility and tolerance (collaborating with each other) *relationship virtues* espoused by Robinson and Keckses (2010) were integrated into the classroom. Moreover, diligence (learning how to build, creating a habitat), self-discipline and effort were also developed (performance virtues). If the goal of character education is to create a community within a school, then the use of service-learning is a vehicle where faculty and staff can model these moral values and can work toward a common goal with the community through collaboration and interaction (Robinson & Kecskes, 2010). It is our belief that through these efforts we can help create a network of positive relationships among the community and all teachers, students, parents, and administrators.

Concluding Thoughts

As the education system in the US continues to head towards accountability and even higher stakes testing, it is important to remember the building blocks of society: young children. This study examined the experiences of both teachers and children in an early childhood classroom that used a service-learning pedagogy for a year, and investigated the social emotional and character development of the young students participating in the classroom. The authors believe that through the implementation of service-learning in early childhood classrooms society, and through small community collaborations we can grow and create a generation of students who connect academic curricula through projects that deal with real community needs. With an emphasis on building relationships and making connections, service-learning is an approach that can allows teachers to maximize children's strengths, which allows all learners to be successful, while at the same time building character and positive social and emotional traits.

Limitations of the Study

A possible limitation of this study is the relatively small number of students participating in the cohort, although the findings from our study have clear implications for teacher education programs. Working with a school district and classroom teachers presents challenges. Early childhood pedagogues, who do not understand that service-learning teaches and/or reinforces curriculum standards, will sometimes construe this type of learning as non-academic or merely fun-based. Therefore, sharing the impact of praxeological-learning in conjunction with academic goals will help to convince districts, schools, and teachers that this type of education belongs in their educational setting. It is our hope that in their future classrooms, the teachers match the service-learning strategies to the developmental needs of their students.

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Research Article

Agency as assemblage: Using childhood artefacts and memories to examine children's relations with schooling

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Abstract: In this article, we explore how childhood artefacts and memories might help us think retrospectively about children's agency and its relationship to schooling and teaching. Across four university sites in Canada and the United States, we asked undergraduate students in teacher education and childhood studies programs to choose an artefact or object that encapsulates contemporary conceptions of childhood and to discuss them in a focus group setting at each site. Building on three participants' descriptions of how they remembered and reflected upon school-oriented objects – a progress report, a notebook, and a pencil sharpener – we explore how participants used their artefacts in ways that allow us to theorize children's agencies as assemblages, where agency is relational and contingent on multiple social and cultural factors. Drawing on our participants' interpretations, we consider how a reconceptualized concept of agency may expand our understanding of the possibilities of children's agencies in school and raise new questions about the meaning of childhood within contexts of teacher education and childhood studies.

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Introduction

Since the emergence of the "new paradigm" of childhood studies (James & Prout, 1990), scholars of childhood from a range of disciplines have called for "children to be seen as social actors shaping as well as shaped by their circumstances" (James et al., 1998, p. 6). As Alan Prout (2011) observes, "The agency of children as actors is often glossed over, taken to be an essential, virtually unmediated characteristic of humans that does not require much explanation" (p. 7). Yet while naturalized as a *human* characteristic, agency tends to be regarded in practice as a property of adulthood. When it comes to school, where so much of one's early life is spent, we continue to see school policies and practices that "construct adults as developed, mature, intelligent, and experienced, based solely on their age," a perspective that justifies the continuation of adult control over children's subjective experiences and decision-making (DeJong & Love, 2015, p. 490). Particularly, as the world struggles to cope with and recover from the global COVID-19 pandemic, deep concerns about the future of schooling have led to new, urgent efforts to regulate teaching and evaluate learning in ways that perpetuate this deficit perspective toward children's agency. In spite of calls for more holistic, flexible, and student-centered approaches to teaching and learning (Garlen, 2021; Mitchell, 2021; Whitley et al., 2021), as well as existing research that has demonstrated the need to include young people in educational decision-making (Irizarry & Welton, 2014; Quijada Cerecer et al., 2013), the panic over learning loss has resulted in strategies that recentre neoliberal values around evaluation, accountability, and competition (Betebenner & Wenning, 2021; McShane, 2021). In New York, for example, this has resulted in a barrage of new testing that requires teachers to administer a 43-question assessment to screen the social and emotional wellbeing of children (LeBuffe et al., 2009). Called DESSA, for Devereux

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Student Strengths Assessment, this Likert-type scale reports a composite score used to measure social-emotional competence and support "good outcomes in spite of serious threats to adaptation or development" (Masten, 2001, p. 228).

How, then, can we reconcile the fundamental belief that children have the capacity to choose, act and influence matters in their everyday lives (James & James, 2012) with the overwhelming evidence, both current and retrospective, that children's lives, particularly their relations with schooling, are so deeply affected by adult decisions? In this article, we grapple with this tension between childhood agency and adultism by considering how childhood artefacts might help us think about children's agency and its relationship to schooling. Amid a growing number of studies featuring the perspectives and experiences of children themselves, we suggest that *adult* memories of having once been children can be read as important archives chronicling childhood agency. That is, we speculate that adults' memories of their own childhood agencies – including times when they were disciplined and/or discouraged in these efforts – represent an untapped resource in the larger agentic turn within childhood studies. Across four university sites in Canada and the United States, we asked undergraduate students in teacher education and childhood studies programs to choose an artefact or object that encapsulates contemporary conceptions of childhood and to discuss them in a focus group setting at each site. While in a previous publication, we analyzed the entirety of the artefacts and drew findings along the contours of nostalgia and melancholia (Farley et al., 2022), here we examine how three of the 15 artefacts, presented as outliers within our larger study, inform our understanding of how adults remember childhood agencies in the context of school.

Building on our participants' descriptions of how they remembered and reflected upon these school-oriented objects – a progress report, a notebook, and a pencil sharpener – we explore how participants used their artefacts in ways that allow us to theorize children's agencies as "something that happens in the relations between the different bodies within a given assemblage" (Gallagher, 2019, p. 190) – where agency is contingent on multiple social and cultural factors. By assemblage, we refer to the theoretical construct attributed to Gilles Deleuze and Félix Guattari (1987), which we understand as "a set of relations in which elements appear to be meaningfully related" (Nail, 2017, p. 25). Assemblages are abstract in that they are not concrete "things" with specific, fixed characteristics, "but rather something that lays out a set of relations wherein concrete elements and agencies appear," (Nail, 2017, p. 24). Here, we consider agency within the assemblage of school, the "emergent potential" of which is produced by the "flows of life, people, materials and ideas" that circulate within it (Dovey & Fisher, 2014, p. 50). With these insights in mind, we consider how a reconceptualized concept of agency may expand the "conditions of possibility" (Foucault, 1966, p. xxiii) that exist within schools and raise new questions about the meaning of childhood within contexts of teacher education and childhood studies. In the next section, we revisit the construct of children's agency and its critiques to situate our analysis in relation to Michael Gallagher's (2019) recent articulation of agency as "something that arises from the relations within heterogeneous assemblages" (p. 188).

Schooling Practice as Neoliberal Adultism

The response to the pandemic's impact on student learning illustrates the extent to which the conditions of schooling are shaped by neoliberal aims that construct children as future adults whose education is directly linked to the promises of economic progress. While many have called for a radical transformation of schooling in ways that prioritize the physical and emotional needs of children and their families (Darling-Hammond & Hyler, 2020; McKinney de Royston, & Vossoughi, 2021; Sonu et al., 2022), such demands have largely gone unmet in North America due to the widespread focus instead on responding to the purported "learning loss" incurred by school closures (Betebenner & Wenning, 2021; Dorn et al., 2020; Kuhfield et al., 2020; Whitley et al., 2021; Zhao, 2021). Business analysts and policy makers have asserted that these losses will lead to decreased literacy rates, lower test scores, and wider achievement gaps, all of which predict a less stable world economy (Economist Leader, 2020; World Bank, 2021). When such neoliberal priorities drive education, teachers are cast as "instrumental means to commercial ends" whose purpose is to produce "predetermined, desired effects—namely, the

improvement of student test scores on international comparative tests" (Phelan & Hansen, 2021, p. 2). Through the mobilization of developmental frameworks, literacy levels, and career readiness, schooling practices focus on educational outcomes that may have less to do with what children, families, and teachers want or need now and more to do with the demands of a competitive global market. The very meaning of childhood is profoundly shaped by the political and economic priorities underpinning educational outcomes in Western capitalist countries, such as Canada and the United States. As Debbie Sonu and Jeremy Benson (2016) observe, "These outcomes symbolize imagined expectations of the child, not as a being with tangential thoughts, curiosities, or psychic particulars, but as an empty vessel, first carved out, then refilled by curriculum standards, practices, and policies" (p. 237). Educational policies and practices that perpetuate outcomes and assessments illustrate the ways that schools overwhelmingly reflect neoliberal interests, even as individual teachers work to attend to the immediate social and emotional needs of their students.

The persistence of schooling practices that centre economic priorities not only perpetuate neoliberal values, but reflect the hegemony of adultism, which John Bell (1995) defines as "behaviors and attitudes based on the assumption that adults are better than young people, and entitled to act upon young people without their agreement" (p. 1). According to Bell, "except for prisoners and a few other institutionalized groups, young people are more controlled than any other group in society" (p. 1). Within this context, objects – inorganic materials that populate school spaces – often become mechanisms of control, especially when they are animated by children's affected attachments (Jones et al., 2012). In relation to this idea, Sara Ahmed (2019) traces how, from the early 19th century, education was used to redirect working class children away from mischievous tendencies and toward activities that were deemed more useful societal aims. Proposed as crime prevention, Ahmed (2019) demonstrates how the notion of useful knowledge took on a moralistic dimension that required children to assume a particular station in the social hierarchy, organized and administered by the circulation of certain objects including assignments, school work, selected books, and progress reports. While school is just one of the many adult-created bureaucracies that children must endure, it is certainly one of the most influential and restrictive. At the same time, such a pessimistic view of the overdetermination of childhood by adult economic concerns seems inconsistent with the focus on agency that has informed the field of childhood studies from its inception.

Childhood Agencies and Assemblages

As Dierdre Horgan, Catherine Forde, Shirley Martin and Aisling Parkes (2017) note, childhood studies, with its focus on children's agency and relationality, has contributed significantly to a growing awareness of the "participative child" (p. 274). Most often conceived from a Global North perspective, the limits and possibilities of children's participation in society have been explored by a range of scholars in recent decades (Percy-Smith, 2010, 2015; Raby, 2014; Roche, 1999; Smith, 2007) and has been highlighted as an emerging issue within children's geographies (Horton et al., 2008; Jones, 2008). Across this body of work, agency is generally understood as the capacity of a child to assert their subjective views and take action in shaping the world. In the specific context of schooling, Margaret Vaughn (2021) defines agency as "a student's ability to have ideas, intentions, and to exert influence and take actions in the learning context" (p. 4) and argues that students who enact agency are more likely to be engaged as active learners. While recognizing that agency is relational - co-constructed with teachers and students in the complex social environment of the classroom - Vaughn (2021) views agency as "part of the fabric of who we are as individuals" (p. 1).

Such contemporary constructions of children's agency have been criticized for their proclivity "to treat children's agency in a celebratory, uncritical, a-theoretical, non-relational, locally-bound and non-reflective manner" (Huijsmans, 2011, p. 1308). Shadowed by the blissful and innocent child of the Western imagination, notions of deservedness around agency can reproduce the Western trope of an individualized subject who single-handedly affects the world through autonomy and rationality. This construction of agency also reproduces a history of raced, classed, and gendered inequality propelled by the colonial engines of progress and civilization, societal aims to which childhood has always been tethered. Scholars

who work in the new sociology and reconceptualist strands of childhood studies show how this reduction of agency to individual capacity reinforces humanist ideals that distribute privileges along produced definitions of normalcy, leaving great numbers of minoritized children the subject of adult anxiety and intervention. This uneven distribution of agency not only disregards the complex social realities of children in diverse cultural and political contexts (Canosa & Graham, 2020; de Castro, 2020), but orders a system designed to determine which child comes to be recognized as deserving the gifts of willful agency and which are to be limited by their need for management and guidance.

Likewise, recent critiques launched within critical childhood studies reveal how a universalized understanding of agency can reduce notions of freedom to a personal attribute or, returning to Ahmed (2019), an object of 'useful' possession. While agency has become a much-needed focal point to understanding children's relationships to institutional structures such as school, arguments that rely on an overly-powerful theory of the individual can flatten, instead of expand upon, ideas of action and activity that can account for the myriad *relational* ways that children act upon the world. Post-colonial and post-structural thinkers refuse the modern dualism of individual-society as a remnant of the Western imperial episteme, arguing that there is no identity uncontaminated from the condition which dominates it. From this perspective, agency refers to actions that bend and alter in ways that can subvert dominant authority and that are simultaneously intrapersonal, interpersonal, and socio-political. Agency is thus tangled rather than clear-cut. It refers to the ways we are always critiquing from within a structure that we are also complicit in perpetuating.

In response to debates over the meaning of agency in childhood studies, Gallagher (2019) draws on Michel Foucault's theorization of power, Deleuze and Guattari's (1987) concept of assemblages, and Jane Bennett's (2010) vital materialism to rethink common notions of child agency through four entry points:

1.Agency is not a staid attribute of human nature, nor a force for liberation

2.Agency arises from and is contingent on specific relations and assemblages

3.Agency spans a range of inventive forms

4.Agency is continually unfolding and reconfiguring, producing new assemblages and combinations of effect

Again, careful not to think of agency as simple opposition to defined structures and institutions, this reconceptualization of agency is central to challenging liberal humanist terms that define individuals as autonomous beings with a set of choices in their own freedom. Who we are is not solely determined by the choices we make from an infinite world of options. Instead, we become that which we are not-yet through a paradoxical and dual process of both reaffirming the conditions that make the recognition of ourselves possible, while practicing what Bronwyn Davies (2006) calls a "radically conditioned agency" which can subvert and eclipse the very dominating discourses that act on us (p. 426). Thus, while subjectivity arises from within existing frameworks and discourses, "regimes of truth" (Foucault, 1977, p. 23) do not determine the ways one can exercise their minds, the beliefs they can adopt, or the actions they can attempt to perform.

Within this tangled web of agency, the child is subject to "conditions of possibility" (Foucault, 1966, p. xxiii) that require a reflexive turn towards what is expected of them and what can be created within the epistemological and discursive limits of our own existence (Gallo, 2017). For Foucault (1966), the production of scientific knowledge, which can be extended to include the "nature" of the child, is underpinned by latent underlying structures that shape what it is possible to know. Applied to a child subject, we might say that existing knowledge about childhood "grounds its positivity and thereby manifests a history which is not that of its growing perfection, but rather that of its conditions of possibility" (Foucault, 1966, p. xxiii-xxiv). Similarly, what it is possible to do is not a fixed human characteristic but

rather a potential that is continually renegotiated in relation to established and emerging patterns and structures.

Therefore, returning to Gallagher (2019), agency does not exist prior to acts of agency, nor does it float around outside of specific relations and assemblages. Instead, agency is produced from mutually constitutive relations that are embedded in discourse, but also through our encounters with other, both human and non-human, material entities. For Timothy Ingold (2011), agency appears as an intentional movement of humans and non-humans, where the idea of ongoing change is central to our ontological and mutually constituted relationships with each other, an entangled condition of being alive in the world. Agency, then, is not just an event that involves an action; it is the very event of becoming itself, an event that changes both the acting subject and the world, an act that expresses our transformation (Grosz, 2010).

Far from a celebration of a child's right to do as they please, agency is an assemblage. The concept of assemblage, drawn from the work of Deleuze and Guattari (1987), offers a more expansive concept of agency that considers how children are situated within their social and cultural contexts. We understand an assemblage as a collection of like and unlike entities, including bodies and objects of any kind. According to Gallagher's (2019) interpretation, the defining features of assemblages include: contingency (interdependent relations between bodies), continuation (perpetually forming relations), and disunity (reconfigurable parts that do not constitute a whole). Gallagher's articulation of assemblage as it applies to children's agency acknowledges that "in any significant action, there are always many bodies and forces at work, both internal and external to the analytical unit of 'child'" (p. 192). This approach to childhood agency not only enables an investigation into the conditions that lead to specific kinds of agentic moves by children, but also relies on a belief that agency is contingent on multiple factors that are themselves continually in flux and subject to change.

Significant to our interests in education, "schools are complex and sometimes incoherent social assemblages" (Ball et al., 2012, p. 2). Set within the mechanisms of neoliberal governmentality, many schools around the globe reinforce dispositions of grit, resilience, self-determination, and advocacy, which download collective responsibilities to individual efforts (Au, 2016). Yet as argued by Noah De Lissovoy (2012), agency can also be considered as a "horizon of integrity" (p. 480) through which students consistently refuse the deficit-oriented characterizations of them, exercising their own creative methods to assert themselves on terms not always recognized or even known by schools and teachers. Jonathan Silin (2006) recalls and reflects on his own creative methods as a child, and specifically, how he transformed "the teacher's lessons into personally meaningful ideas" (p. 236). Silin's analysis of childhood memory foregrounds the ways children can and do shape curriculum – despite teachers' aims and intentions. His work calls for teachers to notice and support children's creative efforts to use school texts to "unlock interior rooms" made from desire (p. 237). Paula M. Salvio and Gail Boldt (2010), too, underscore the creative methods of "play and fantasy" at work in children's agentic uses of symbols, objects, and words to facilitate their personal and social reconstructions of meaning that productively refuse the "utilitarian demands" of school contexts (p. 203). As a creative method and horizon of integrity, agency is, then, a critical, although sometimes quiet, bending of the hegemonic forces that schools impose, and it works persistently in times of both self-formation and public-facing protest, particularly for students who experience marginalizing school contexts. Our study draws from these varying frameworks on agency, including the ubiquity of agency within the assemblages of schooling, to analyse what chosen artefacts of childhood might mean to three undergraduate students and their future work as primary school teachers.

Method

Across four major urban cities in Canada and the United States, including Toronto, Ottawa, Montreal, and New York City, this project investigates how undergraduate students entering professions and fields of study devoted to working with children draw on personal and popular discourses to think about the meaning of their future roles in relation to children and concepts of childhood. To this end, we asked participants to bring a cultural artefact or object they believed represented contemporary views on childhood to discuss in a small focus group of approximately 3-5 participants. Our initial focus groups,

conducted in-person before the pandemic, yielded 17 participants across the four sites and a range of artefacts. The following year, we conducted a second round of virtual focus groups with 15 new participants.

In planning for the virtual focus groups, we took into account several ethical considerations, which were presented to and approved by the research ethics board of each institution. To protect participants' anonymity and eliminate any potential for coercion, we utilized the assistance of student research assistants to recruit participants and conduct the focus groups. Participants were not recruited from courses that we were teaching or those of colleagues where there might be crossover with our current students. In order to protect participants' anonymity, participants provided the research assistants with pseudoyms, and only the research assistants had access to the participants' personal information. The audio transcripts of the virtual focus groups were rendered by Zoom and then edited for accuracy and anonymized by the research assistants before being shared with the faculty researchers. Photos of the artefacts were also provided by the research assistants.

The artefacts from the second set of focus groups, conducted during the COVID-19 pandemic, were not dissimilar from the artefacts of the first set of focus groups, which took place before the pandemic. Across both focus groups, the main artefacts of choice were stuffed animals, cherished books, tools and toys, expressions of creativity, and symbols of achievement. For the purposes of this paper, we decidedly focused on three participants who brought to the group artefacts that showed direct connections to school. To note, we were quite surprised that of all participants, only three chose to represent schooling experiences even as school is considered a formative part of a child's growth and development. Although some participants chose items that could be perceived as having some relationship to school, only the three items featured here were discussed in relation to experiences that took place in school. For example, participants who brought books spoke of them in relation to family time or reading with loved ones at home, while one participant's presentation of a graduation cap and gown focused on the societal pressure placed on children to be future-minded and achieve success. Since the essence of these artefacts did not reflect experiences in school, we did not include them in the final analysis.

Before the focus group, participants completed a short online questionnaire that asked for demographic information, an uploaded photograph of their chosen artefact, and written responses to two questions: 1) Why did you select this item? 2) How does your artefact represent childhood and what meanings of childhood (in terms of age, gender, ability, innocence, interest, futurity etc.) does it convey and assume? Focus group sessions, conducted by research assistants at each site, ran approximately 60-90 minutes and were held on Zoom during the early months of 2021. At the end of the session, participants were also asked to provide a brief written response in which they reflected further on the meaning of the artefact. All submitted materials, including transcripts of the focus group sessions, were read and all researchers, including assistants, met on multiple occasions to analyse the data. In keeping with our previously established approach to data analysis (Chang-Kredl et al., 2021; Farley et al., 2020, 2022; Garlen et al., 2020; Sonu et al., 2020), we conducted a thematic content analysis to discover what insights were surfaced through the focus groups. We first utilised NVivo to conduct a word frequency analysis in order to generate initial codes and familiarize ourselves with the data. Then, working in teams with the research assistants, we manually coded the transcripts with an inductive approach that sought to map out the content of the discussions and identify relevant themes for further analysis. For this particular study, the authors returned to the discussions of these three artefacts for further deductive analysis that sought to identify what, if any, insights the artefacts held for children's relations to schooling. Following a close thematic analysis of each participants' words, we also considered the nature and form of each artefact as it related to larger social and political contexts.

Twelve of the 15 participants were between 18-24 years of age and three participants fell above this range: 27, 31, and 44 years. They ranged in the ways they described themselves by race and sexuality, with all the participants identifying themselves as female, except for one non-binary and one male individual. The three participants who are the subject of this paper are Denise, Sky, and Liza, all residing in Canada

and of Asian descent. Sky is an 18-year-old, pansexual non-binary Filipina who attends university in Ottawa; Denise is a 24-year-old Vietnamese female who attends university in Toronto; and Liza is a 21-year-old bisexual Asian female who also attends university in Toronto. All three of them also preferred to teach children who were older than the typical age indicated by most undergraduate students enrolled in such programs. While childhood studies and teacher education programs for elementary school teachers usually draw university, students interested in working with young children, these three participants were outliers in their intention to work with young people between the ages of 10-18.

Findings: Agentic Artefacts

While acts of resistance in school tend to be thought of through episodes of acting out or forthright protest, the three artefacts we present in this paper demonstrate how children draw from their own creative capacities to re-claim their own sense of agency amid the disciplinary measures and normative pressures of institutional life. Returning to Gallagher (2019), these artefacts represent times when "the inventive tendency of agency can be seen on the rarer occasions when children and young people repurpose assemblages in unforeseen ways" (p. 195). Each of these artefacts stands out as an example of how participants used objects that were intended to manage them along the values of schooling and usurped their function to create "unexpected eruptions that disturb the status quo" (p. 195). Such transformations of use may not carry the force to change entire structures of schooling, and they may indeed feel quotidian or "small" compared to the penetrating discourses of schooling and its function to govern society (Bamberg, 2006, p. 2). However, each artefact captures the significant ways that children invent new uses of school things to express when their own needs and desires come into contradiction with authoritative demands, illustrating the converging and conflicting relations at work within the school assemblage. The tensions between the child's agency to create and the institutional aims of these artefacts urge us to attend to the meanings children make through their intimate and personal uses of school objects and artefacts, meanings that often exceed school expectations. Indeed, this agentic work should also extend into adulthood, insofar as adults reflecting on early life experiences may recall the many and complex ways they acted on the world as children, which in turn, may also be applied to their conceptualizations of childhood today.

The Progress Report Drawing

The artefact that Denise brought to the focus group was her kindergarten progress report (Figure 1) that featured a drawing she produced and the pre-printed words "WATCH ME GROW . . ." in capital letters at the top. At the bottom of the page, typed instructions, seeming to address the adult evaluator, read: "Child's comments on learning at school (pictures and/or words)." Denise's drawing can be read as a commentary on her experiences of learning at school, or a response to the request for such commentary. Denise explained that she chose the picture because she was looking for a drawing that was similar to what she used to draw as a child. Since the mid-twentieth century, drawings have been used in schools and clinical settings to evaluate intellectual development and diagnose mental disorders (Goodenough, 1926; Harris, 1963). In the late twentieth-century, when identifying individual factors associated with low achievement became increasingly common, drawings were used to determine which kindergartners should be considered "at risk" (Goldman & Gilbert, 1992). As neoliberal educational reform took hold in the 1980s, children, as learners, were increasingly classified by the "ability to inscribe oneself and self-govern through the language of levels and assessments" (Sonu & Benson, 2016, p. 242). Beginning in preschool, students are continually evaluated to determine their academic progress in relation to external benchmarks, and drawing prompts are frequently used as a method to assess motor and cognitive skills in children whose reading and writing skills are still developing.

Outdoors as an Agentic Site

Denise's drawing depicts an outdoor scene featuring a stick figure person, an animal, flowers, and some unidentifiable objects of various shapes and sizes bordered by green grass at the bottom of the page. Above the figures are three squares divided into four parts to represent windows, likely indicating the

school in the background of the scene. In the open section just below the picture the words *"I like to by"* fill up most of the available space, with the words *"pants"* appearing above in the picture itself, suggesting that Denise might have run out of space for the sentence she wanted to write. Reflecting back on the drawing as an adult, Denise did not recall her exact intention, but shared her assumption that it was meant to be a picture of herself and an animal. Denise explained that nature-oriented scenes were something she remembered well from her childhood, particularly as she grew older:

> ...when I got to grade four and five, I would draw like faces on . . . flowers and like the grass and like the sun and stuff, so . . . I was really fascinated with nature.

Denise also described the significance of her artefact both in relation to its school function as well as the insight it could offer into her perspective as a child. As she explained, the drawing was

> ..personal because it . . . is like a grade report so it . . . tells me like the skills that I had at the time when I was younger . . . and . . . the way I was evaluated and how I like saw the world at that time of my life.

At that particular time of her life, Denise explained, she rarely had access to drawing supplies at home, a fact that highlights the specialness of her artefact as something that grew out of and represented a relationship to the school environment.

Taking the drawing as a reflection of how Denise *"saw the world,"* we might consider her response to her teachers' prompt as an illustration of her relationship to school. Her positionality in relationship to the yellow windows suggests that what matters to Denise about learning exists, ironically, outside of the classroom. As Denise explained, her drawing shows *"how secure and safe I felt as a child, of this sense of wonderment . . . also like exploration of nature."* Also notable is that while Denise located the matter of learning outside of the classroom, she also acknowledged her use of school supplies to which she *"rarely"* had access. Denise speculated further with contemplative hesitancy, suggested by her halting speech:

> ...children that, um, like have, um, like um, are growing up in low socioeconomic um standards or backgrounds, they don't really have access to these, um, tools.

This observation, that children who may not have access to supplies use school tools to enact agencies that exceed the aims of the institution, repeats in all three participant narratives under discussion in our paper. Denise underscored precisely this point in noting the discord of her drawing, specifically, that it depicts *"a lot of things that doesn't [sic] really make sense"* but that are *"put together."*

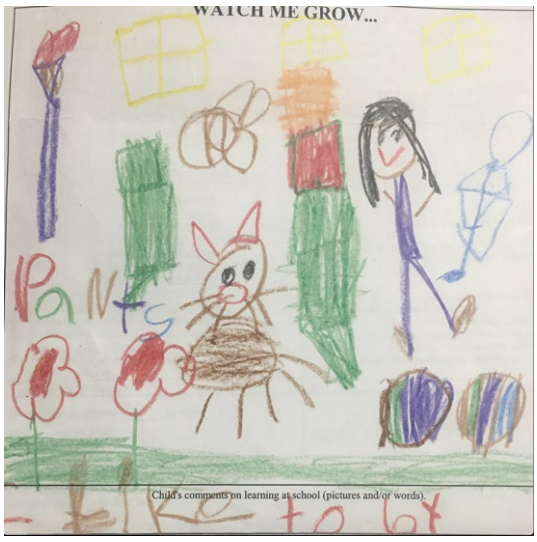

Figure 1. Progress report drawing

Rewriting Relations to Schooling

Instead of functioning as a medium through which Denise's academic skills can be directly measured, the progress report, as she describes it, is transformed into a refusal of school as the central concern of her child life and a celebration of her *"vibrancy,"* which flourished in spite of the demands school

placed upon her. As Denise explained, for her, the picture reflected children's need for play, which makes recess *"a really valuable thing."* She also noted how her choice of bright colours speaks to *"a sense of imagination that you still have and a sense of playfulness"* as a child. The *"innocence," "youth,"* and *"happiness"* that Denise saw reflected in the picture seem to defy the assessment tool's narrow evaluative purpose. Denise explained further that she saw in the picture a message that children *"need . . . time to play . . . they need time to . . . explore the world. They have like a very . . . huge imagination."*

Reflecting on what Denise's artefact might tell us about children's agency in and relations to school, we might consider it as an example of routine agencies, which, according to Gallagher (2019) "happen wherever bodies or forces act in ways that develop or reproduce conventions, comply with rules or follow patterns" (p. 195). In responding to the prompt as a kindergartner, Denise was complying with the demands of the assignment, at least to the extent that she was asked to draw a picture and she did so. However, as Gallagher (2019) further explains, "routine agency is not slavishly deterministic; even with ingrained patterns of action, for something to constitute agency, there needs to be room for a degree of indeterminacy and improvisation" (p. 195). Denise's response, which seems to suggest that what was most important to her about learning at school happened outside of school, reflects a certain measure of playfulness that works within established patterns of response to circumvent, but not fully contravene, the force of evaluation. Her drawing reminds us, as Gallagher (2019) notes, that "children find ways to exercise something that looks like agency despite or against the dominant orientations of the power relations within an assemblage" (p. 193). We would add that Denise's reflections tell us something about how adults reflecting on childhood artefacts may hone these early resistances to regard the critical capacities of children they will one day teach.

The Stolen Notebooks

For Sky, a small, black sewn composition notebook (see Figure 2) became an object that surfaced for her the tension between their embodiment of gender and sexuality and learning to write in school. When asked to explain the significance of the notebook, Sky recalled the familiar school routine of writing in similar notebooks for at least fifteen minutes a day. The prompts were determined by the teacher, who, in Sky's words *"was always like, go and write about so and so,"* and Sky remembers being expected to write even if they weren't *"very qualified to write about some of the topics."* Sky recalls that at some point in this routine of daily writing, they eventually started taking notebooks home. *"This sounds bad,"* they said apologetically, *"but I would like . . . steal some of these notebooks and then I would just bring them home."* At home, freed from the directives of the teacher, Sky filled the notebook with pictures, notes on gender and sexuality, as well as short stories and poems.

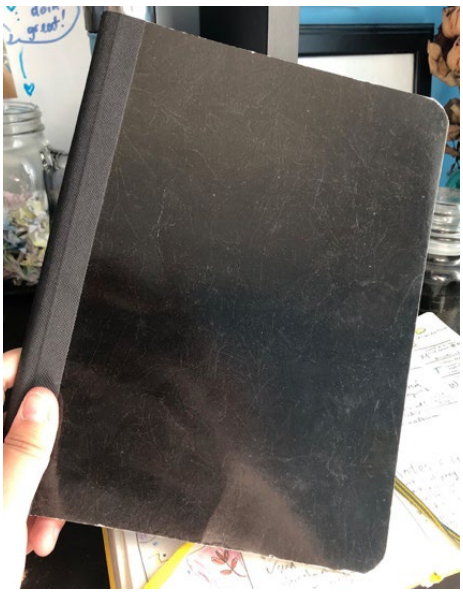

Figure 2. Black notebook

Writing as Routine Agency

As an artefact of childhood, the composition notebook reflects the importance that is placed on writing as a primary focus of early education. It also reflects the influence of neoliberal values on writing instruction. As Shari Stenberg (2015) observes, when the purpose of education is understood as preparation for economic futures, writing is viewed as "a masterable, commodified skill whose purpose is deployment in the workplace," and therefore other purposes of writing such as personal inquiry or the exploration of new and different perspectives are diminished (Salvio & Boldt, 2010). As Stenberg (2015) notes, "since neoliberal logics value a streamlined approach to predetermined outcomes or competencies, there is little tolerance for learning processes that entail engagement of (an often recursive) process, collaboration and dialogue among learners, and reflection" (p. 8). This tendency is reflected in the way that Sky's teacher asked students to write to a specific prompt, even if it wasn't something they were interested in or informed about. Although the students were not allowed to choose *what* they wrote about, we can assume that they could choose *how* they responded to the given prompt, as journal entries are not typically assessed for accuracy in primary classrooms. By Gallagher's (2019) definition, the act of responding to the prompt could also be considered routine agency, which he describes as acts that function through "patterns of response" that "comply with rules or follow patterns" (p. 195).

Stealing as Inventive Agency

In describing this daily writing routine, Sky explains that:

> not everyone in my class loved the writing thing, either, because . . . it was mandated, like you had to write for 15 minutes. We weren't going to do anything else unless you wrote a certain amount of words in 15 minutes.

As they elaborate, such rigid schooling directives were not conducive to self-discovery or personal disclosure:

> I didn't really talk about my . . . ideas very much in class mainly because I couldn't . . . articulate it.

However, Sky circumvents this rigidity by taking notebooks home in order to enact a wholly different purpose:

> It was really only until I started stealing notebooks and just like writing on my own like on my own time that it actually like meant something to me. So, I also think that like, it shows how like maybe . . . there's many ways to kind of like utilize things that are supposed to be like standardized or like normal and make our own meaning out of it.

For Sky, the stolen notebooks became a space where they were able to explore themselves in a way that felt out of place at school or with other adults. Specifically, Sky, who identifies as non-binary and pansexual, shared that even though sexuality and gender identity were *"way out of [their] realm as a kid,"* they remember writing about liking girls and acknowledging that it seemed taboo at the time. Ultimately, Sky's reappropriation of the notebooks ignites their love for both girls and writing, and becomes "*a way to write to this invisible person that I guess I needed in my life."*

Reminiscent of Silin's (2006) creative use of school texts to 'unlock' desire, Sky's repurposing of the notebook from a tool for writing instruction to a private medium of self-discovery and exploration can be understood as an act of inventive agency. As Gallagher (2019) explains, "Bodies through which this kind of inventive agency flows are transformed by it, and in turn transform the assemblages in which the body participates" (p. 195). Sky's act of stealing the notebook from the school setting and repurposing it redirects the restrictive hegemonic forces of schooling to produce a different relationship, with the object, with the act of writing, and, retrospectively, with their perception of childhood itself. In taking the notebook, Sky may also have been attempting to secure a much-deserved corner of the world for themselves. When asked in the focus group by another participant whether the stealing of the notebooks might be seen as *"the opposite of innocence,"* Sky responded by saying, *"Yeah, I sucked as a kid. [Laughs]. It was not cool. [Shakes head and laughs again]."* Sky's statement suggests that there is something about the act of stealing the notebook that was not *"kid-like"* when viewed through a normative lens. When the participant pressed Sky about whether the stealing was an intentional act of rebellion, Sky said that although it was *"one of the more riskier*

things" they did as a kid, they saw the stolen notebook as an opportunity *"for something good."* With this interpretation, Sky resists a normative construct of the *"good"* school child, embracing their transgressive act as an agentic move to create a viable existence for themselves in a space where they were otherwise silent. If identity is, as Judith Butler (1988) tells us, "instituted through a stylized repetition of acts" repeated so commonly that they come to be seen as natural (p. 519), then we might say that Sky used the notebook to engage in "a different sort of repeating" (Butler, 1988, p. 520) that broke away from the school routine and allowed them to enact different possibilities for themselves beyond the constrictive measures of school routines and expectations.

The Pencil Sharpener

When Liza was in the fourth grade, she snuck out of her tutoring centre and made her way to the store. She drew out her allowance and bought herself a pencil sharpener (Figure 3), an object she would hold well into her adulthood. When asked to bring an artefact to the focus group, Liza was worried that her artefact, in comparison with the others, wouldn't be *"professional enough,"* but she chose it anyway because it symbolized for her *"innocence, joy, and hope"* during the *"not so nice time"* of school. Having been bullied *"a lot,"* Liza recalls the *"mental health issues"* she had experienced during childhood and how she *"always got really anxious and just hated school in general."* On occasions when she would *"not feel welcome"* or *"very scared,"* she would pull out her notebook, take her pencil sharpener and jot down her thoughts and ideas. *"I dream of, like, the future, um, that would be better,"* Liza shares.

Figure 3: Pencil sharpener

Liza grew up in Hong Kong and moved to Canada at the age of 17. During the focus group, she described this transition as a time when she realized that "*things can have different meanings*." In Hong Kong where she remembers school as a "*bank*" with too many students, teachers were just "*stuffing them with the information without caring about mental health*." She shares her observation that children in Hong Kong, unless they were "*on the edge of being suicidal*," were rarely approached by adults about emotional matters. Whereas in Western countries, Liza continues, children speak openly about emotions so that when there is an issue, "*you're both doing it together*." A deep contrast to her representation of Hong Kong, she finds that in Canada, "*there is a lot of talk about inclusion...and promoting positivity*." This stark distinction seemed to serve a reflexive purpose for Liza and she shares her surprise in learning that even Canadian universities offered mental health support for their students. *"It was all new to me,"* she exclaims, having learned firsthand how the very chance of where one grows up can make a world of difference in how "*you see the world ... like how you see yourself."*

Agentic Self-Protection

Like Sky's notebook, the pencil sharpener signals a place of calm amid the turmoil of school. While Sky found refuge from the hegemonic structures and dominant discourses that constricted their writing and identity, Liza came to writing as a way of protecting herself from the emotional despair left by bullying. In Liza's case, she anchors her experience of school violence in the cultural mores of Hong Kong where she

grew up as an only child with two working parents who, as she described, were rarely home. Even as she did not have direct experience growing up in the Canadian context, she presumed that the Western approach to child-rearing would have supported her in her time of emotional need. Indeed, we see her taking up the discourse of care as central to the work of teaching, albeit through the cultural split of her immigrant experiences. On the one hand, she seems to reinforce well-being as a result of care in the West and on the other hand, characterizes the support she needed as a child as unavailable to those in the East. About her own role as a teacher, she remarks *"how important it is for a child to be comfortable in the school area...to feel welcome in the environment that they're in - and feel included."*

Liza's act of splitting seems to create certainty from difficulty, offering her an anchor to work through the losses of her childhood and perhaps also to support her efforts in learning to teach within a "new" school system of the West. However, the bullying that Liza endures does not only dwell in the personal. Rather, acts of school violence emerge from within broader institutional forces and pressures that continually sustain the possibility of and for such injury. Built into the culture of schooling, perhaps across the globe, such violence is connected to a host of schooling practices that encourage competitive behaviors among children, using achievement and compliance as predictive markers of success that students must fight to obtain or setting up conditions where some children enact a need to dominate and make themselves recognized over others.

Agentic Resistance

The assemblage of forces that pressed down on Liza involved bullying by other students, but also included judgements made by her childhood teachers, the absence of her laboring parents, and the disheartening consequences of using tests to measure a child's developmental progress and worth. As she explains:

> I did not do well in school so my teachers did not like me. Um, some of the teachers actually joined the students to bully me as a kid, so I did not have like a very good experience, um, from school, um. And I guess that's like, because I didn't have good teachers, um, my teachers did not believe in me when I was a kid... Um, so growing up, I like when I was doing tests and stuff, I did not have any motivation of like studying, um, because I like never believe in myself, I don't think I would succeed, um, because no one ever believe in me, not even my parents.

Even as a young adult who is now studying to be a teacher herself, this childhood memory haunts Liza during times when she undergoes a test or is required to turn in a class assignment. *"It's the first thing that comes to my mind is mostly, the [teacher] is just being good to me. It's not that I'm that good."* Each time she receives a good grade, she is undermined by an inner voice that questions her deservedness. Perhaps the pencil sharpener, a symbolic representation of Liza's need for safety, can be understood as part of a larger context in which bullying is sustained through the demoralizing effects of a hidden curriculum that privileges relations of competitiveness and judgment, rather than care and compassion. The pencil sharpener, then, together with Sky's notebook and Denise's drawing, all illustrate ways that children are creating spaces through which they push against the instrumentality of school, and albeit seemingly small, can serve as powerful reminders of how children sharpen their agentic revolt against the aims and effects of schooling they find too debilitating to bear.

Both Sky and Liza's narratives demonstrate how even in the most authoritative or disavowing of circumstances, children are exercising their own agencies. If we consider the imposing quality of education's evaluative imperative, we can also see a similar, albeit more routine, form of agency represented in Denise's drawing. All three artefacts show how such agentic moves can be existential to the formation of an identity that is continually being tested within the institutional space of schooling. The prescribed logic of outcomes is now reconfigured as a space of expression and self-identification in Denise's drawing and Sky's notebook, and the pencil sharpener becomes the tool through which Liza tries to defend herself from the targeted abuse of her peers. These artefacts provide the ontological material from which acts of agency and self-formation unfold within constrictive schooling contexts. They set into motion the invention of hidden, even secretive and stealthy corners of expression created for and by children themselves.

Conclusion and Discussion

Many of us may recall from our own childhoods the school objects from above: the official script of school progress reports, the scribbled-on pages of composition notebooks, the grinding of the pencil sharpener rising above the classroom din. None of these objects appear in memories as detached or solitary. They conjure up entire social scenes that open up a world of possibility; uses that exceed the expectations of their intended purpose in school, as illustrated by the artefacts presented here. The progress report, typically used to record academic levels and grades, ironically becomes a window to explore the joys of being on the other side of the classroom wall. The composition book, stolen from the school site, hides away the intimate feelings and secrets otherwise discouraged or silenced in school. The pencil sharpener inspires dreams of the future, a life away from the despair of bullying. In all cases, ordinary school objects are transformed into agentic critiques of schooling itself.

With these critiques in mind, we suggest that the stories these artefacts tell present an opportunity to interrogate the binary construction of agency as something that either is or is not possessed or realized, moving individualizing conceptions toward more contextualized perspectives that acknowledge the range of ways that children are shaping relations among themselves and within school spaces. In teacher education, directing our focus toward what agency does and how it operates within the assemblage of bodies, objects, and forces could create opportunities for teachers to better understand how agency becomes initiated within classroom settings as a complex relation, and not simply an individual achievement. Karen Guo and Carmen Dalli (2016) suggest, too, that children enact agency through their "clear attempts to bond with others and establish a sense of belonging" (p. 264). The argument for agency as relational also holds for our analysis of childhood artefacts. Each of the meanings the participants attached to these school-related artefacts spoke to their need to develop and express a sense and understanding of themselves within the school and sociocultural context. For all three participants, that need was made urgent by a sense of rejection and containment of who they were as children. Taken together, the artefacts remind us that children take active part in negotiating their relations within the school assemblage of rules, expectations, materials, teachers, parents, and peers. They urge us, as teachers and teacher educators, to acknowledge that, as Gallagher (2019) notes, "children's decisive actions always happen in relation with other kinds of beings and objects," and children are "key players in shaping these relations – never the only players, but certainly players worth taking seriously" (p. 193).

The demand to "take children seriously" can, however, lead to an oversimplified conceptualization of agency as a property of the individual. The three participants described above tell us otherwise: that agency is entangled, fluid, and transgressive. While efforts to 'manage' children in classrooms may inadvertently support their unquestioned compliance to the rules of schooling, an overly determined critique of how children's capacities are diminished by educational demands may not be the most generative approach for teachers or students. Rather, if we appreciate children's vulnerabilities to outside demands as an opening for further understanding, rather than a closing – if we treat them as an invitation into the unresolvable tensions that circulate in school spaces – then we may be able to see that agency emerges not in spite of but *through* contexts that otherwise aim to manage and even control their very actions (Gallagher, 2019). Drawing on the work of Butler et al. (2016), Gallagher (2019) suggests that such a view of agency enables us to consider vulnerability not as something to be overcome, but as "a radical openness to being affected by events, which is fundamental to the ability of life to feel, grow, change and act" (p. 193). Perhaps it is in this tension between school and student that a focus on agency can instruct, not at the extreme ends of freedom and control, but rather as contextualized experiences from which we can further support human dignity and growth.

For us, a key question raised in and through the above narratives is how a critical focus on teachers' childhood memories might support a theory of children as agentic subjects with the capacity to resist the demands of school, without also leaving them to their own devices. That is, while agency can emerge in and through difficulty, and while the participants of our study recall their own efforts to that end, we are left with a question of how memory can remind teachers of the need for a supportive context in which to

try out disruptive or experimental ideas and actions. As Outi Ylitapio-Mäntylä (2013) found, memory work offers a way to "contemplate constructions of caring and power and develop critical ways of thinking about truth and knowledge" (p. 274). Zsuzsa Millei et al. (2019) assert that memories offer insight into how children both reproduce and resist normative roles and produce "their subjectivities with, within, and against dominant narratives" (p. 10). For Gannon (2015) collective memory work can help us identify the "historically and culturally specific processes whereby one is subjected to particular discursive regimes and regulatory frameworks and through which individuals and their social contexts are constructed" (p. 62; see also Davies & Gannon, 2006). As the artefacts remind us, discursive regimes that mark children as innocent and lacking in agency do not reflect the participants' remembered experiences of childhood. Instead, they urge aspiring teachers to expand and reconfigure the lenses through which they view the children with whom they work, including of course, the social, political, and material particulars of their own classroom settings. As we have written elsewhere (Farley et al., 2022; Sonu et al., 2020), memory can serve as an important vantage point from which to examine not only one's history, but how our own recollections of being children reflect or disrupt dominant cultural beliefs about what childhood *should* be.

We hope that engaging in the kind of active and critical memory work featured in this study can encourage beginning and experienced teachers to take notice of and challenge the ways that they might be neglecting, resisting, or inviting a range of children's agencies. As these moments of resistance and invitation frequently occur at the microlevel, such deliberate reflections may require us to engage in the "repurposing of classroom moments" (Stenberg, 2015, p. 11) as opportunities to recognize and foster spaces of contravention. Drawing on Louise Archer's (2008) insights on neoliberalism and identity, such an approach embraces the notion that children and teachers are not simply "inevitable neoliberal subjects" but agentic actors with the capacity to "carve out new spaces for being otherwise" (p. 272). The inventive meanings and critiques that emerge from these artefacts of schooled childhoods remind us, as Gramsci (1971) writes, that hegemony is never absolute. While we can never really know the experiences of those we care for, and therefore cannot strive for certainty, complete protection, or total control, rethinking the converging and conflicting relations at work within the school assemblage opens possibilities for working both within and against current structures, and in effect, invites the imagination of practices that can subvert the repetitive and normalizing processes of school in order to create space for the unforeseen and the agentic to emerge.

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Research Article

Social and emotional learning (SEL): How it finds a place in an early childhood education curriculum in Turkey

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Abstract: The study aims to identify the Social and Emotional Learning (SEL) skills as defined by Collaborative, Academic, Social and Emotional Learning (CASEL) in the Turkish Early Childhood Education Curriculum (TECEC). Recent studies have pointed out that gaining SEL skills at early ages has many benefits for development. Researchers in the SEL area suggest that having a clear conceptual framework benefits both in research and practice. TECEC document is examined based on CASEL's framework. Document analysis was used to identify how SEL standards and objectives in TECEC were conceptually designed. The findings show that out of 17 standards to support social and emotional development, only 10 of them are related to SEL, meanwhile, 7 of them are identified as social studies standards. Out of 53 stated objectives, thirty-one of them are related to SEL skills. The current study will provide a tool for researchers, curriculum developers, and practitioners that feel the need to base their research and practice on a solid conceptual framework.

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Early childhood education; Social and emotional learning; Curriculum

Introduction

There is a huge support of evidence-based research which identifies positive effects of providing social and emotional learning (SEL), curriculum, and practices at schools (Durlak et al., 2011; Taylor et al., 2017). Student outcomes are mainly observed in six areas: increase in SEL skills, attitudes toward self and others, positive social behavior, decrease in conduct problems, emotional distress, and academic performance (Weissberg, 2019). Through developed SEL skills, children's self-efficacy gets higher; they develop a more comprehensive sense of community; the ethical values they have are enhanced (Zins and Elias, 2007). Children demonstrate more prosocial behavior; they become more participatory in the classroom. In terms of academic achievement, their mathematics, language, and social studies scores improve along with their learning capabilities (Zins and Elias, 2007). Recent research demonstrates that SEL supports students' academic performance; encourages positive behaviors and decreases negative behaviors like school suspensions and drug use (Durlak et al., 2011; Taylor et al., 2017). SEL Programs are built on systematic classroom instruction which aims to enhance children's capacities to identify and regulate their emotions; develop an appreciation of different perspectives; strengthen children in terms of developing prosocial goals and problem-solving capabilities; and develop effective use of interpersonal and social skills (Payton et al., 2000). SEL programming enhances students' social-emotional competencies through creating positive classrooms, school cultures, and climates. Besides, it helps to maintain caring, cooperative, culturally responsive, participatory and safe learning environments (Zins et al., 2004). Moreover, teaching SEL skills contributes to the future investment in human capital of a country. Research carried out by Columbia University shows that quality SEL programs bring in an 11:1 return on dollars invested (Belfield et al., 2015).

When teaching SEL at early ages is considered, the evidence supports many positive outcomes that are related to young children's academic, social and behavioral achievement in school and well-being in

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general (Bierman et al., 2017; Gol-Guven 2017a, 2017b, 2019). Immediate outcomes of SEL programs on young children include better school adaptation, decreased problem behaviors, higher levels of perseverance, better results in following directions and being attentive in school (Durlak et al., 2011; Jones et al., 2015; McClelland et al., 2017). In the long term, young children have better mental health; their graduation rates and employment opportunities increase; their self-regulation skills are enhanced and they become more engaged citizens and resilient adults (Bierman and Motamadi, 2015; Schindler et al., 2015).

Early Childhood Education in Turkey

Compulsory education is twelve years in Turkey that does not include early childhood education (ECE). Starting from primary school years, schools are state-funded, regulated and free of charge. In the early childhood education, parents pay fees to cover stationary expenses and meals. Turkish educational system is so centralized that programs, textbooks, and teachers' recruitment and training are listed under the authority of the Ministry of Education (Gol-Guven, in press). In the ECE curricula, teaching training, and practice, academic and cognitive skills are emphasized by transferring the knowledge by structured, teacher-directed, didactic methods (Gol-Guven, 2009).

The Turkish Early Childhood Education Curriculum (TECEC) is the only document available for practitioners (Ministry of National Education [MoNE], 2013). In a 114-page long document, the framework presents the aims and principles, the importance of ECE, standards and objectives, and some examples of classroom layouts, monthly plans, daily routines, and some assessment tools and strategies. Out of 349 objectives; 118 of them are cognitive, 73 are language, 53 are social and emotional, 70 are motor, and 35 are self-care skills (Gol-Guven, 2018). Accompanying is the activity book containing 40 in-class activities. Another activity book for teachers was published in 2018 (MoNE, 2018) that was requested by the teachers who reported that the framework is not enough to plan classroom activities.

The CASEL's Framework

The Collaborative for Academic, Social and Emotional Learning (CASEL) is an international organization which developed a framework presenting skills, attitudes, and values necessary to develop SEL skills in schools (Payton et al., 2000). CASEL defines SEL as the process in which both children and adults acquire and implement the attitudes, knowledge and skills which are critical to identify and regulate emotions, create and achieve goals, feel and demonstrate empathy with other people, build and maintain positive relationships, and make responsible decisions (CASEL, 2015). In CASEL's Framework, there are five core SEL competencies in the domains of cognitive, affective and behavioral learning. These are self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Table 1 shows the basic SEL competencies and skills.

Table 1. SEL competencies and skills

Self-awareness	Self-management	Social awareness	Relationship skills	Responsible decision-making
Identifying emotions	Impulse control	Perspective taking	Communication	Identifying problems
Accurate self-perception	Stress management	Empathy	Social engagement	Analysing situations
Recognizing strengths	Self-discipline	Appreciating diversity	Relationship building	Solving problems
Self-confidence	Self-motivation	Respect for others	Teamwork	Evaluating
Self-efficacy	Goal-setting			Reflecting
	Organizational skills			Ethical responsibility

Document-based Analysis of SEL

In addition to providing well defined SEL skills that led to numerous amounts of research, CASEL evaluates SEL programs effectiveness by doing document-based analysis. Document-based analysis is done to understand the extent to which programs, frameworks, curricula cover the SEL competencies. Studies that carry out such analysis review SEL programs to document the specific SEL competencies covered in the programs; to report the effectiveness of program implementations, and to demonstrate the methods that are used in the implementation of these SEL programs. Such analysis is carried out in mainly three categories: (a) SEL programs' effectiveness analysis, (b) Analysis of State and/or National frameworks, and (c) Independent evaluation studies of curricula and programs. Document-based analysis aims to evaluate and report which SEL standards and objectives are stated in general educational frameworks or in specific SEL programs.

SEL Program's Effectiveness Analysis

CASEL published three main guides in which SEL prevention and intervention programs are evaluated based on some effectiveness criteria (CASEL, 2003, 2013, 2015). The guides review and select SEL programs based on certain criteria in relationship with the program design, implementation, and evaluation. The programs are analyzed in terms of their alignment with CASEL five SEL competencies, promotion of those competencies, design, length, the opportunities they provide for practicing SEL skills, the quality of the training provided for the implementers, the assessment tools, evidence-based effectiveness studies. The guides also provide information on the targeted age-group, objectives and settings. The guides provide information for school and district-level administrators on how to match district and school level outcomes with the programs listed.

Analysis of State/National Frameworks

The Organization for Economic Co-operation and Development (OECD) Report titled Skills for Social Progress - The Power of Social and Emotional Skills (2015) is an extensive review of policies and practices that promote SEL skills in OECD countries and partner economies. The report examines the national education system objectives, curriculum frameworks, the curriculum and content of school subjects, and extracurricular activities related to SEL skills. Autonomy, tolerance, responsibility, critical thinking and intercultural understanding are the mostly targeted skills in the national curricula. Countries under review integrate SEL skills across subjects in their curricula at an increasing rate. In the national curricula of most countries, students' SEL skills are addressed in subjects like physical and health education, civic and citizenship education, moral and religious education.

The recent report written by European Network for Social Emotional Competence (ENSEC) analyzes international and national curricula frameworks, policy and reports on SEL education (Cefai, et al., 2018) and it states that although the value of teaching SEL is recognized in the educational documents, many areas that are related to SEL are covered within the content of citizenship and health education. The report suggested that there should be a distinct place of SEL in the curricula and adequate time and resources should be aligned for its teaching.

CASEL carries out a state scan in which the quality of state SEL standards are reviewed and analyzed across the United States of America (Dusenbury et al., 2014). There are some states advocating that SEL instruction needs to be a part of the core academic curriculum as opposed to standalone competencies. This scan shows that there are states which create guidelines or professional development opportunities to assist students' SEL skills whereas other states determine SEL goals. There are also states making changes in their existing curriculum to include SEL competencies (Dusenbury et al., 2018).

Independent Evaluation Studies on Curricula and Programs

Studies are conducted to understand the effective components of psychological treatments (Chorpita et al., 2005; Forman et al., 2009; Garland et al., 2008; Lawson et al., 2019; McLeod et al., 2017). In these studies, various forms of documents on SEL instruction and implementation are reviewed with several

aims; demonstrating the core features and effectiveness of SEL programs so that practitioners and policy-makers can benefit in their program selection; scanning the curricula and policy documents of states and countries in order to describe and revise the different approaches towards high quality implementation of SEL skills; and mapping out the common core elements of SEL interventions and programs to point an effective framework for assessment and evaluation of the current program, future program development, and research. One significant aspect of effective SEL programs and curricula is that they have a clear theory base, well-structured frameworks, and measurable learning objectives. The common/core elements of these programs are; social skills, identifying others' feelings, identifying one's own feelings, problem solving and behavioral coping skills/relaxation.

The current study is a combination of state framework analysis and evaluation of curricula that aims to identify to what extent Turkish Early Childhood Education Curriculum (TECEC) social and emotional development standards and objectives are related to SEL. CASEL's framework is used as a guide (CASEL 2017a) to evaluate how much of SEL skills can be identified in TECEC. The aim of the study is to (a) categorize the standards and objectives related to either SEL skills or social studies, (b) identify how TECEC standards and objectives are related to CASEL's SEL competencies and skills, (c) evaluate what is missing in the current form of TECEC in relation with SEL. This study contributes to the field by exemplifying a systemic evaluation of national curricula about the integration, coverage and matching SEL skills.

Method

This is a qualitative case study as the study focuses on understanding a single curriculum. The method adopted is content analysis as the study aims to study the topic of concern; integration of SEL in TECEC, in detail and to give a holistic, in depth and detailed description of the situation (Fraenkel et al., 2011). The method is based on systematic analysis and interpretation of what is stated in and beyond the documents that are investigated. The documents that are used in this study are official documents (Bogdan and Biklen, 2007).

In TECEC, the general aims of the program are referred to as standards and the subcomponents of these standards are addressed as objectives. While referring to CASEL Framework, SEL competencies and skills are the chosen terminology in this study. Specifically, TECEC standards define knowledge, abilities, and competencies that should be reached by children. When it comes to the objectives, they are arranged from simple to complex and from concrete to abstract hierarchically to serve for the occurrence of learning standards. According to TECEC, the objectives are observable versions of the standards (MoNE, 2013). When the number of standards and objectives are considered, it is seen that cognitive developmental area is focused the most, and it is followed by social emotional development, language development, motor skills, and self-care skills (Gol-Guven, 2017c).

The Procedure

Data coders of the current research are the authors of this article. The codes used for analyzing the TECEC document are *a priori* codes, based on CASEL Framework. This is done to relate these codes and bigger categories to an analytic framework in SEL literature (Creswell, 2007). After the first coding, the coders discussed the discrepancies and ambiguities. Later, they reconvened with the first author of the article, and they brought their disagreements and consensus to compare codes. Through discussion with the expert coder, discrepancies and ambiguities were resolved and the coders reached a mutual decision on a coding scheme. Hereafter, the two coders met weekly to control for coder drift and to discuss questions and solve them.

During the coding process, some common themes emerged, and they were used to make decisions in the following steps of the study (Creswell, 2007). In the first step of the data coding, the coders congruently realized that some of the SEL developmental domain standards and objectives of TECEC do not directly address SEL, but rather, they are more relevant to social studies. For doing this distinction appropriately, different educational curricula and their suggested standards and objectives were examined in detail. For identified social studies standards, Illinois State Board of Education (ISBE) (2010) and National

Association for the Education of Young Children (NAEYC) (2018) were decided to be used for coding.

To examine the social studies standards, ISBE Early Learning and Development Standards (2010) have been selected because it is developed for the use of public schools in Illinois in the US, which can be representative for examining the TECEC which is basically used by public ECE institutions in Turkey. ISBE Early Learning and Development Standards integrate Language Arts, Mathematics, Science, Social Studies, Arts and Social and Emotional Development, which makes it clear for the researchers and coders to distinguish SEL standards from social studies standards. In ISBE Early Learning and Development Standards document, social studies domain includes several sub concepts related to civic engagement, history, citizenship, the community the child grows in, economy and geography. The document plays the role of a benchmark to find corresponding social studies standards in TECEC.

NAEYC (2018) explains how social studies learning lays the foundation for children to discover the world and society they live in, the interactions among the community members, roles, and responsibilities in a society and what it means to participate in the social life as members and citizens of the society. NAEYC shows how different curricular approaches are taken in integrating the standards of social studies in early years. It also dwells on the linkage, overlapping points and differences between children's social development and social studies. NAEYC depicts the different ways social studies are represented in early years standards like citizenship education, character education, moral education, community learning, etc. So, the document has been helpful for the coders to understand how social studies differ from social emotional development standards.

For identified SEL standards, CASEL documents (CASEL, 2017a, 2017b) and SEL standards of Michigan Department of Education (MDE) (2017) The Rhode Island Council for Elementary and Secondary Education (RIDE) (2017) are used as a guide for data analysis. An open and exclusive coding method is adopted specifically, and the coders worked on the coding separately. At the end of the separate coding process, firstly the two coders met and compared their codes. As suggested by Creswell (2007), the contrasts and comparisons emerging out of the coding process are noted and used for analyzing how SEL is conceptualized in TECEC.

The interrater agreement decision is reported in percentages like similar qualitative document-based studies in the field (Forman et al., 2009; Lawson et al., 2019). The data coders have 100% agreement on the distinction between SEL or social studies. There is a 95% agreement on the evaluation of SEL related standards and objectives of TECEC between the two coders. Low inter-rater agreements were addressed by discussing, and re-establishing consensus on the codes followed by another round of independent coding until the agreement has reached 100%.

Results

TECEC has 17 social emotional development standards and 53 objectives in total. All these standards along with their objectives are analyzed to see their coverage of SEL skills and their alignment with CASEL Framework. The analysis shows that out of 17 standards, 10 can be considered as SEL standards whereas 7 standards can be categorized under social studies. Out of all 53 objectives, 31 belong to SEL objectives and 22 belong to social studies objectives. Later, TECEC standards are categorized into two groups: the compact and mixed SEL standards. In the compact SEL standards, the standard addresses only one CASEL competency, meaning it does not belong to another SEL competency. On the contrary, standards coded as mixed refer to the standards that have one or more objectives that are stated under other SEL competencies. Out of 10 TECEC standards, 6 of them are coded as compact whereas 4 of them are coded as mixed. Overall, self-awareness is only addressed by 2, self-management by 6, social awareness by 14, relationship skills by 7, and responsible decision making by 2 objectives. In total, when social-awareness and relationship skills are considered together, social aspects are covered by 21 objectives out of 31.

Social Studies

Social studies include the subjects that are history, geography, diversity and human rights, and arts.

The first analysis showed that seven standards directly referring to social studies are related to the learning of arts, civics and human rights, citizenship education, life skills, history, and national symbols (Table 2). Standards 1, 2, 3, 11, 13, 14, and 16 fall under the content of social studies. It is seen that standards 1 and 2 are related to life skills. Standard 3, 13, and 14 are matching more to the objectives of an arts curriculum. Standard 11 is more related to history and national symbols of social studies curriculum. Standard 16 is categorized under objectives of social studies with a focus on civics and human rights education (ISBE, 2010; NAEYC, 2018).

Table 2. Social studies standards

Standards	**Social Studies**
(1) introduces his/her own features.	Life Skills
(2) introduces family-related features.	Life Skills
(3) expresses himself/herself in creative ways.	Art
(11) takes responsibility for activities related to Atatürk.	History
(13) protects aesthetic values.	Art
(14) realizes the value of works of art.	Art
(16) explains that individuals have different roles and duties in social life.	Civics and human rights

Compact and Mixed SEL Standards

In review of TECEC, Standards 4, 5, 6, 7, 8, 9, 10, 12, 15, and 17 are found to be directly related to CASEL competencies and skills. Further analysis showed that there are two groups that hold two distinct characteristics. Compact SEL standards are standards 4, 5, 6, 7, 9, and 17. Mixed SEL standards are 8, 10, 12, and 15. Within 6 compact SEL standards, 2 self-management, 3 social awareness, and 1 relationship skills are addressed. Within 4 mixed SEL standards, the objectives are scattered, not aiming directly to specific SEL competencies. Within 4 mixed SEL standards 2 are related to self-awareness, 2 are related to self-management, 2 are related to social awareness, 2 are related to relationship skills, and 1 is related to responsible decision-making. Table 3 shows the TECEC standards either belonging to the mixed or compact category; the corresponding CASEL competency, TECEC objective and the corresponding CASEL sub skill.

Table 3. Compact and mixed TECEC SEL standards compared to CASEL

Compact/ Mixed	TECEC SEL Standards	CASEL Competencies	TECEC Objectives	CASEL Skills
C	(4) expresses/explains other people's feelings about a situation/case.	Social Awareness	4.1 able to tell other people's feelings.	Perspective taking
			4.2 able to tell the reasons for other people's feelings.	
			4.3 able to tell the consequences of other people's feelings.	
C	(5) demonstrates his/her positive and negative emotions related to a situation/case through proper/appropriate ways.	Self-management	5.1 able to explain his/her positive and negative emotions verbally.	Stress management Impulse control
			5.2 able to demonstrate negative emotions through positive behaviors.	
C	(6) protects his/her own and other people's rights.	Social Awareness	6.1 able to tell his/her rights.	Appreciating diversity
			6.2 able to tell that other people have rights, too.	
			6.3 able to tell what he/she can do when faced with unfairness.	
			6.4 able to tell what to do to be able to protect other people's rights.	
C	(7) motivates himself/herself to achieve a task or duty.	Self-management	7.1 able to start a task without adult guidance.	Self-motivation Self-discipline Organizational skills
			7.2 tries to finish a task on the assigned time.	
C	(9) explain different cultural characteristics.	Social Awareness	9.1 able to tell the cultural features of his/her own country.	Appreciating diversity
			9.2 able to tell the similar and different features of his/her country and other countries.	
			9.3 able to tell the different features of different countries.	
C	(17) solves his/her problems with others.	Relationship Skills	17.1 able to solve his/her problems with others through talking to them.	Communication
			17.2 asks adults for help when he/she cannot solve his/her problems with friends.	Social engagement
			17.3 makes a compromise when necessary.	Relationship building
M	(8) respects differences	Self-awareness	8.1 able to tell that he/she is different.	Accurate self-perception
		Social Awareness	8.2 able to tell that people have different characteristics.	Appreciating diversity
			8.3 able to take part in activities with children who have different characteristics.	
M	(10) fulfills his/her responsibilities.	Self-management	10.1 shows that he/she is willing to take responsibility.	Self-motivation
		Responsible Decision Making	10.2 fulfills the responsibilities he/she undertakes.	Ethical responsibility
			10.3 able to tell the consequences of not fulfilling responsibilities.	Reflecting Evaluating
M	(12) follows the rules in different settings.	Social Awareness	12.1 gives his/her opinions when rules are determined in different settings.	Persevering in addressing challenges
			12.2 tells that rules are necessary.	
		Self-management	12.3 adheres to the rules when his/her wishes and rules conflict.	Impulse control
		Relationship Skills	12.4 follows the etiquette rules.	Communicating clearly
M	(15) has self-confidence.	Self-awareness	15.1 tells what he/she likes about himself/herself.	Accurate self-perception
		Relationship Skills	15.2 able to express himself/herself in front of a group.	Social engagement
			15.3 able to give his/her different opinions when necessary.	
			15.4 takes the leadership role when necessary.	Teamwork

*C stands for compact and M stands for mixed SEL standards.

Compact SEL Standards

Standard 4 corresponds with perspective taking of CASEL social-awareness skill. To express and respond to others' feelings and to express reasons and consequences of others' feelings, one needs to understand one's own and others' emotions. There is no standard or objective addressing this skill. Standard 5 overall corresponds with self-management, specifically addressing impulse control and stress management. Without any prior focus on identifying emotions, controlling them could be difficult. Standard 6 corresponds with appreciating diversity of social awareness. However, it only refers to promoting the rights of all individuals. Understanding, accepting, and recognizing rights and differences of all individuals need to be addressed as well. Standard 7 is mainly about self-motivation, self-discipline, and organizational skills related to self-management. However, a very limited version of self-management is provided with the two objectives: starting a task without adult guidance and finishing it on time. Standard 9 corresponds with appreciating diversity related to social awareness. The main aim of including appreciating diversity in SEL is to help children understand differences based on values, beliefs, and perspectives starting from their own cultural contexts (e.g., within the groups in schools). Standard 9 only deals with children telling the similarities and differences between their own and other countries. Standard 17 corresponds with relationship skills (i.e., communication, social engagement, and relationship building). The objectives are only about managing conflicts, but they do not cover the ability to have a clear communication, listen carefully, cooperate with other people, and refuse improper social pressure.

Mixed SEL Standards

When mixed standards are considered, the following points were found. Standard 8 corresponds with self-awareness (accurate self-perception) and social awareness (appreciating diversity). "Being able to tell that he/she is different" needs to address strengths and limitations. Other two objectives related to appreciating diversity need to include attitudes and values as well. Standard 10 corresponds with self-management (self-motivation) and responsible decision-making competencies (ethical responsibility, evaluating, and reflecting skills). It seems that the standard addresses "taking responsibility" but many aspects of controlling impulses and problem solving were not stated. Standard 12 "following the rules" involves many competencies such as self-management, social awareness, and relationship. In one learning standard, three different SEL competencies and skills are stated. Standard 15 "having self-confidence" corresponds with self-awareness (accurate self-perception). Three objectives are directly related to relationship skills (social engagement and teamwork) that could be only observed as a result of self-confidence.

What is Missing?

Self-awareness and responsible decision-making are the two competencies addressed at the lowest rate. Only 2 objectives were presented aiming for accurate self-perception. Identifying emotions, recognizing strengths, self-confidence, and self-efficacy were not represented by any objectives. Same wise, responsible decision-making requires many steps such as identifying problems, analyzing situations, evaluating, reflecting, taking ethical responsibilities. They were either missing or not identified in an organized way. On the contrary, social awareness is the most addressed competency; still, empathy and respect for others are missed. Although other competencies found themselves a place, they were not addressed fully. For instance, rather than addressing proactive self-management such as goal-setting and organizational skills, reactive skills such as emotion and impulse control were given more importance. Relational skills are not provided to build and maintain social relations but could become handy when conflicts arise and good behaviors in a group are needed.

Conclusion and Discussion

The study aims to examine to the extent to which TECEC has qualities of SEL standards and objectives identified by CASEL. The findings showed that TECEC does not have a well-designed SEL framework. First, TECEC covers both SEL and social studies. Second, while some standards are well-structured and their objectives aim for the same SEL skill, some are not in alignment with each other. Lastly, some SEL skills are not addressed at all.

First, having well-structured standards that have corresponding objectives might help practitioners to address certain competencies and skills more comprehensively. Three approaches are suggested by Dusenbury and colleagues (2011): (a) SEL standards that are free-standing and comprehensive/extensive, (b) free-standing standards targeting one or more dimensions of SEL (c) synthesis of goals and benchmarks linked to SEL in other sets of learning standards (e.g., English language arts, health, social studies). When TECEC is reviewed, it is clearly seen that some standards are a combination of objectives in other majors such as social studies, referring to arts, history, civics, and life skills majors. Developing SEL standards that are free-standing, comprehensive/extensive, and clear is suggested (Dusenbury et al., 2011).

Second, both designing standards and objectives conceptually and lining them up with gradual scaling are important. To demonstrate, certain skills are prerequisites of others, for instance self-awareness precedes social awareness. For developing responsible decision-making, social awareness and relationship skills of individuals need to be supported. From a developmental perspective, being aware of one's own emotions and thoughts is an ability that develops prior to being aware of other people's feelings and ideas (Bronson, 2000; McClelland et al., 2015). Same wise, being aware of one's own emotions and thoughts is an ability that develops prior to expressing, controlling, and managing feelings and stress (Bronson, 2000; McClelland et al., 2015). Also developing self-management competency could not be left without teaching children the self-regulation cycle; planning, monitoring, controlling, reflecting and evaluation (Pintrich, 2000; Zimmerman, 2002). Bailey and colleagues (2019) in their recent article propose a developmental model that suggests that we introduce recognizing and communicating feelings before managing feelings that could serve as a foundation for empathy, perspective taking, conflict resolution, and relationship skills. These suggestions would help TECEC reformulate its current state of non-ordered SEL skills.

Third, the analysis reveals that what is not stated in the curriculum is as important as what is stated. Self-related competencies are covered by only one third of overall SEL. This finding could be the result of the cultural values related to collectivism, which is heavily observed in Turkish culture. Collectivism and interdependence are the features of traditional cultures as theorized by Kağıtçıbaşı (2005). In such cultures, there is less focus on individual development in upbringing children. Rules, rights, responsibilities, and roles (e.g., within family and society) are the concepts that are addressed more frequently. This seems to be the case for other European countries (Cefai et al., 2018). Appreciating diversity that is another skill related to social awareness was only addressed by focusing on respecting differences. Yet, the term diversity suggests that differences are complementary and commonality of needs, feelings and wants among individuals or groups are cherished. Understanding the wholeness of humanity is the first step of respecting differences.

The clear emphasis is placed on responsibility, not on responsible decision-making. Before taking the responsibility of one's actions, children need to acquire "the ability to reflect on and evaluate the results of his/her actions and decisions" in the problem-solving process. Without provisions of responsible decision-making and problem-solving skills (i.e., identify/analyze/solve/evaluate problems), children might experience difficulties to assume responsibilities in certain areas. Children need to have conditional knowledge (IF-THEN) to evaluate current situations and to make predictions about the consequences of their decisions before choosing to apply them (Winne and Azevedo, 2014).

Overall, a possible explanation of missed and overemphasized aspects of SEL in TECEC could be found on the basis of perceptions of children and childhood. As reminded by James and Prout (2015), children have long been regarded as passive individuals who have limited or no capacity to manage their

lives; thus, they need to be controlled by adults. In such cultures, what is expected from children is staying obedient and silent, maintaining the social order and hierarchy. However, conceptions of children are also changing in other cultures which accept that children have agency, rights to make their decisions; they are strong and capable; and they can fulfill many roles and responsibilities in the society when given adequate opportunities and support (James and James, 2012). IN TECEC, there is no sign of an agent, right-holder, active, participating child who is independent and receives support from the family and school to reach his/her potential. In TECEC, it is seen that (child) self is valued as long as it is social, responsible, and managed. The lack of "self" focused SEL standards and objectives can be considered a base for this interpretation. This can be accepted as a compromise of healthy social emotional development in exchange for socially adaptive behavior.

The aim of teaching SEL skills is not only supporting children in school but also developing their skills that will be necessary for them in life (Zins and Elias, 2007). It is appropriate to teach SEL skills to children at school because schools are places which welcome all children and contribute to their social, emotional, and academic development (Zins and Elias, 2007). According to Cefai and colleagues (2018), countries need to develop a framework for the integration of SEL skills into the curricula. It is highlighted that SEL education needs to be structured and integrated into the curriculum. Based on the comprehensive framework they suggest, the curricula need to include both intra and inter-personal SEL competencies; SEL skills should be instructed regularly, these skills need to be supported by activities across the curricula besides the classroom atmosphere and by using a whole-school approach.

The study examined TECEC to investigate whether it carries out proposed SEL standards based on the CASEL framework. One major contribution of this study is proposing document analysis as a method to investigate other curricula or educational materials used in other grade levels to see how much they incorporate SEL and what is left out. In depth analysis will allow policy makers, curriculum developers, and teachers to effectively integrate SEL standards to educational policies and classroom practices to support children's SEL.

One of the key implications of this study can be that any systems or structures need to review SEL objectives, the framework it adopts and learning outcomes. If done so, this will give a clear view to the teachers willing to provide SEL skills to their students, to tie their practices to SEL that will in return help them evaluate their practices on a theory basis. Having a look at the TECEC will help us observe the real classroom practices in ECE classrooms to match the curricula and the actual work done. It can also shed light on how to make appropriate revisions based on the discrepancy between basic SEL competencies and SEL objectives of TECEC. The effective inclusion and integration of SEL skills at the national level will pave the way for schools to adopt its implementation. In the design of the national SEL curriculum, importance should be given to creating mechanisms for effective planning, delivery and quality implementation and evaluation of the SEL instruction. It is also suggested for the effective school implementation that school administrators and teachers also need ongoing support and guidance in addition to theoretically sound curricula.

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Authors' Declarations

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Research Article

Exploring humour within the early childhood period from children's and teachers' perspectives

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Abstract: The purpose of this study was to examine humour from the perspectives of 60-72-month-old children and their teachers in Turkey. A phenomenological method was used to collect data through semi-structured interviews, which included each child making a drawing about something they thought was 'funny'. Teachers were also interviewed via semi-structured questions related to children's humour. Data collected from 22 children and five teachers were analysed using McGhee's humour development theory and Martin's descriptions of four humour styles. The humour produced by our sample mainly included items related to incongruity. Teachers described children's humour development in terms of how the children behaved within their social group, and some believing that children who do not make jokes about their peers, have no humour development. Our findings pointed to a lack of awareness of the benefits of humour to the learning process and early years' education, particularly with teachers needing to account for age, developmental level and cultural differences.

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Introduction

Any change in a person's lifestyle and environment affects the problems they face (Pala & Gönen, 2018). Therefore, at various times in their lives, people need to utilise different types of strategies to deal with their problems and find ways to be happy. One of these strategies is humour, which McGhee (2002) defined as a source of providing a variety of benefits in people's life. Humour helps people to develop a more positive perspective when dealing and coping with negative emotions such as fear, insecurity and hopelessness (Samson et al., 2014). In addition to engaging in social relationships and connecting with other people, humour can be a facilitator because it helps people better express themselves and develop self-confidence (McGhee, 2002). It can be defined as a tool that performs different functions in people's lives by focusing on amusement and joy. Even when the context of humour that people use changes, its practice can be considered a lifelong necessity.

Culture is another dimension that influences children's humour (Mireault & Reddy, 2016). Understanding or production of humour may differ in different cultures. To illustrate, in Western cultures humour is seen as an indicator of intelligence and creativity (Sternberg, 1985), whereas in Eastern cultures such as in Chinese culture, this situation is perceived in an opposite way (Jiang et al., 2011; Yue, 2011). This cultural difference related to humour is also observed in seeing humour as a coping mechanism. That is why, in Eastern countries, humour is not accepted as a way to cope with problems (Abe, 2006; Chen & Martin, 2005; Nevo et al., 2001). Therefore, the need for studying humour and trying to develop further understanding related to humour in different cultures may arise to make more accurate explanations related to humour in children.

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Humour and Young Children

Humour is considered to contribute to children's intellectual, physical, moral, social and emotional development (Bergen, 2003; Loizou & Recchia, 2019; McGhee, 2002). For example, to understand the alternative meaning of something or concrete humour, children need to reach for more complex thoughts, and this process requires the development of cognitive skills (McGhee, 1974. In addition to cognition, humour has benefits in terms of social development, as it readily facilitates interactions between people of different ages, genders and backgrounds (Klein & Kuiper, 2006; Loizou & Recchia, 2019). Humour is also thought to benefit children's moral development. According to McGhee (1974), children in the heteronomous stage laugh at actions in stories with humorous punch lines, whereas children in the autonomous stage might also laugh at the unintentional actions of a protagonist. As they grow older, children develop the ability to better judge what is right, wrong and funny. This affects their ability to make moral judgements and decisions (Bergen, 2018). In addition to the child's development, when integrated into educational settings, humour can benefit children's learning (Chabeli, 2008). Several studies have also suggested that the use of amusing cartoons or jokes promotes learning in the classroom by supporting the development of children's memory (Schmidt, 2002; Schmidt & Williams, 2001; Ziv, 1988).

Thus far, several ideas have emerged concerning the specifics of how humour, evidently beneficial during a child's early years, actually affects their development. Many of these are based on a theory established by McGhee (1979).

Mcghee's Humour Development Theory

In explaining how children understand, appreciate and produce humour, McGhee (1979) provided a detailed description of how children develop humour and argued that incongruity that is about the abnormalities in an ordinary situation is the main source of children's humour and that the humour behaviours exhibited by children differ from those exhibited by adults. McGhee (1979) also stated that cognitive development is important for humour development; he was highly influenced by Piaget's cognitive development theory. Like Piaget, McGhee defined the humour development of children in four stages: incongruous actions towards objects (18–20 months), incongruous labelling of objects and events (20–24 months), conceptual incongruity (2–7 years) and humour with multiple meanings (7–11 years). The 60-72-month-olds considered in the current study were thus assumed to be in the third stage of humour development; hence, the focus of this research was to investigate the characteristics of conceptual incongruity among them. Conceptual incongruity suggests that children make jokes not only about themselves but also about others. The jokes that children make at this stage can also be abstract and complex. Moreover, because of the development of skills related to previous actions, children begin to make more jokes about themselves. McGhee described this period by saying that children appreciate and produce humour by being aware of the 'violations of the perceptual appearances of things' (McGhee, 1984, p. 230).

In contrast to McGhee's explanation of humour in terms of the cognitive perspective, Martin et al. (2003) focused on the socio-emotional outcomes of humour.

Martin's Humour Styles Theory

People's humour styles can differ, and in Martin's (2007) theory, four different humour styles are presented: two adaptive and two maladaptive. Within the adaptive styles, the first type is self-enhancing humour, in which a person makes jokes about themselves but not about others, and these jokes are not humiliating. People who exhibit this humour style have a positive outlook towards life and can laugh about themselves, particularly when they are experiencing difficult situations (Martin, 2007). Because children with self-enhancing humour become confident and self-assured, they can develop a more desirable position within their social group, and their feelings related to self-worth can result in increased pro-social behaviours (James & Fox, 2019). The other adaptive style is affiliative humour, which facilitates relationships between people, and those who have this type of humour love to make others laugh without

resorting to sarcasm (Martin, 2007). Thus, children who have this humour style tend to have a high level of social acceptance and popularity within their social group (Klein & Kuiper, 2006).

Maladaptive humour consists of two styles: self-defeating humour and aggressive humour. The former can be used to establish social relationships and be part of a social group by denigrating oneself by revealing weaknesses and making jokes that humiliate oneself. However, in the long term, this type of humour damages a person's emotions and self-esteem (Martin, 2007). This humour style can cause low self-esteem and inner neediness, which in turn may cause one to be unappealing to others (Klein & Kuiper, 2006). The second type of maladaptive humour is the opposite of self-defeating humour, in which people adopt an aggressive humour style by enhancing themselves and making humiliating jokes about others. In the long term, as such jokes damage a person's relationships, this humour style can be harmful to the person (Martin, 2007). Even if in the short term, exhibiting aggressive humour can bring acceptance within their social group, in the long term, these children might have a difficult time developing affiliative humour and ultimately experience group rejection (Klein & Kuiper, 2006). Thus, it is necessary to consider the effects of humour styles on the physical adjustment and social competence of children and, consequently, to examine young children's humour styles.

Klein and Kuiper (2006) stated that Martin's humour styles theory does not provide an explanation for the development of children's humour styles. However, they did suggest that humour styles begin to develop in the early years of human development. For example, infants' and young children's interactions with caregivers, peers and teachers can provide clues about the children's current and possible future humour styles (Klein & Kuiper, 2006). Therefore, this theory is focused on the different ways in which people use humour. For example, some children use humour to cope with stress, while others use it as a way to show aggression (Führ, 2002). Others, such as Halfpenny and James (2020), stated that Martin's adaptive and maladaptive humour styles can be used to explain children's cognitive empathy, affective empathy and sympathy. Moreover, Erikson and Feldstein (2007) sought to investigate the relation between the psychometric properties of children and different humour behaviours using Martin's humour styles. Fox et al. (2013) also emphasised the importance of the early years of development in determining humour styles among children because this allows parents and teachers to better understand children's needs in terms of humour and to support them in developing adaptive humour styles. For example, by providing the necessary modelling, activities, environment and classroom management, parents and teachers can support children's humour development.

In addition to theories which try to explain children's humour, several other studies also improve the understanding related to children's humour. For example, Loizou (2006) tried to understand children's humour by examining their responses to pictorial humour. In another study conducted in 2011, she analysed children's humour via the photos children took with disposable cameras. Also, Loizou and Kyriakou (2016) analysed children's production and appreciation of verbal and visual humour. Studies in the literature not only try to provide a better understanding of children's humour but also attempt to explain the importance of humour regarding children's development and argue that humour is highly related to children's cognitive, social, emotional and language development (Bergen, 2021; Gidwani et al., 2021; Martin & Ford, 2006; Oppliger, 2003; Shultz, 2017). From this point, including humour in classrooms becomes an important question. For example, studies which discuss the importance of humour within classrooms emphasise the positive effects of humour in promoting children's learning and creating a positive classroom atmosphere (Bryant & Zillmann, 2014; Lovorn, 2008; Oppliger, 2003). While Ağçam and Ünsal (2019) found that teachers believe humour contributes to children's self-esteem, attitudes toward school and communication with their teachers and peers. Finally, humour differences between cultures and the importance of broadening the approach to humour by considering cultural differences is another important research area. To illustrate, Jiang et al. (2019), Guo et al. (2011), and Yue (2011) explained how humour differs among Chinese students in comparison to students from Western cultures. Similarly, Sahayu et al. (2022) stated that even if Indonesian children exhibit similar humour characteristics to McGhee's humour development theory, different patterns of children's humour behaviours are actually

observed. Thus, even if universal theories of humour provide a useful guide, culture-specific humour explanations are necessary.

In the current study, during the data analysis process, both McGhee's and Martin's explanations of humour were used to present the data more meaningfully. McGhee (1974 2002) is one of the theorists who has explained humour development from a constructivist perspective. His theory provides developmental stages and explains incongruity humour (James & Fox 2019). According to James and Fox (2019) and Martin et al. (2003), the strong links between humour styles and psychological adjustments ultimately provide a valid explanation for understanding humour styles. Therefore, these theories can be used to explain the study findings through a theoretical framework. Data about children's humour development and styles are necessary to understand what humour means in the classroom and how teachers can meet children's needs by learning about what makes them laugh. Whereas data from children can help to develop a better understanding regarding children's humour, the data collected from teachers can also be an extremely valuable source to learn about their views, knowledge and approach to the humour of children. Therefore, the current study provides teachers, parents and researchers with insights that will enable them to better understand children's humour and offer appropriate environments and experiences in accordance with children's humour development.

In this study, the researchers examined how children appreciate and produce humour as well as how early childhood teachers' view the humour presented by children. To achieve this aim, the researchers obtained data through interviews with the participating children and teachers to determine what made the children laugh as well as what the teachers knew about the humour produced by the children. The following research questions were addressed in this study:

RQ1: What humorous elements do 60-72-month-old children include in their drawings?

RQ2: How do 60-72-month-old children explain the humorous/funny "things" represented in illustrations of books presented?

RQ3: How do teachers describe the sense of humour and humour styles of the children in their classes?

Method

Study Design

Using a phenomenological approach, this study aimed to collect in-depth data from children about their understanding and production of humour and to gather teachers' views on humour in the classroom and the children's use of humour. According to Creswell (2007), phenomenological research enables researchers to collect data regarding the experiences of an individual or their views on a specific concept or situation. Therefore, in the current study, the researchers used phenomenological research, and as suggested by Creswell (2007), interviewed the participants to obtain direct responses on the topic.

Participants

Both children and teachers of early childhood education participated in the current study. Convenience sampling, in which the participants are selected according to their accessibility and proximity to the researchers, was adopted (Creswell, 2007). In all, 22 normally developed children in the age group of 60–72 months (10 female; 12 male) were selected. The median of children's age was 66 months. The reason for including only 60-72-month-old children in this study lies in their developmental characteristics. Also, the participating children were living in the city centre and were from families of middle and high socioeconomic status. According to Fabian and Mould (2009), children grow, develop and mature due to the effects of nature and nurture. In this regard, older children normally show more developed language and cognitive skills compared to younger children, and as a result, can be more comfortable expressing themselves within the data collection process. The children in this study were chosen from five classrooms of a public preschool that provided permission and was suitable for researchers' access in Tokat, a small

city in the Black Sea region of Turkey. Consent for their participation was obtained from their parents and teachers. These children attended preschool either in the morning or in the afternoon. Three of the five classrooms were morning classrooms, and the other two were afternoon classrooms. Four or five children from each classroom participated in the study.

In addition, five teachers who taught these participating children were included in the study. The age range of the teachers was 26 to 39 years old, and all five had graduated from public universities with a bachelor's degree in early childhood education. Their teaching experience varied from 4 to 16 years. All five participating teachers who taught 60-72-month-old children knew the participants and were able to observe them in terms of humour appreciation and humour production; therefore, these teachers could provide the anticipated data.

Instruments

For data collection, the researchers utilised semi-structured interview questions for both the children and teachers. After a review of the relevant literature, the first version of the questions was formulated. After conducting a pilot study and gaining expert opinions, interview questions for the children and teachers were adapted to make them more understandable in terms of sentence structure, wording and the number of questions**.** Thus, the researchers developed the final version of the interview questions. Expert opinions were obtained from three professors from the early childhood education department of a public university within Turkey. In addition to the questions, a humorous illustration was chosen from a children's picture book according to the Evaluation Form of Humorous Factors in Children's Books developed by Johnson (2010) and adapted to Turkish by Pala and Gönen (2018). For the illustration, approximately 80 books were examined, and the final book chosen was 'Ben Sandalye Değilim' (I am not a Chair), written by Ross Burach and translated by Nuran Hatırnaz (2018).

In addition to expert opinions regarding the book and illustration choice among books, a pilot study was conducted with six children from a private kindergarten in Tokat. Given the pilot study results, no changes were made to the interview questions used in this current study. However, the manner in which the researchers started the data collection process changed from that used in the pilot study. For example, the children were shy to talk to the researcher, so a story-reading component was added at the beginning of the research to help the children develop a closer relationship with the researcher. Also, because the term "humourous illustration" was not meaningful for children in the pilot study, the researchers decided to instead use the word "funny" when talking to children participating in the main study**.** In the pilot study, the choice of illustration was also included. For this process, five illustrations from each category of Johnson's evaluation form were chosen based on expert opinions, and the final illustration was selected after a process of elimination based on the children's ideas about whether the illustration was funny and what they had understood from the illustration. Finally, as a result of the experiences gained through the pilot study, the final version of the main study was prepared. Table 1 presents examples of the interview questions posed to the participating children.

Table 1. Interview questions for children

Category of Question	Example Questions
Views on drawing	What do you see in the picture? Do you think that it is funny? Why is it funny? Or what is it not funny? What are the factors that make this picture funny? What would you add to this illustration to make it funnier?

For the teachers' interview questions, a pilot study was conducted with two teachers who taught the children during the pilot study period, as it was confirmed that these teachers understood the questions and would provide relevant answers to the research questions. Table 2 presents a sample of questions posed to the teachers.

Table 2. Interview questions for teachers

Category of Question	Example Questions
Demographic Information	Which university did you graduate from? How many years of teaching experience do you have? Have you ever taken any courses or seminars regarding humour?
Views on Humour Development of their Students	How do you define the humour development of C*?

Data Collection Procedure and Ethics

Before data collection, necessary permission was obtained from the Ethics Committee of a state university in Ankara, Turkey, and from the Turkish Ministry of National Education. Then, the researchers contacted the school principal and teachers for access to the children. A consent letter was sent to the parents, informing them about the study and its procedures. Parents were then asked to sign a document stating that they consented to their children's participation in the study. The children were also verbally asked whether they would like to participate in the study and that their willingness to participate would significantly help (Fraenkel et al., 2012). The classrooms where the data was collected included 60-72 months old. Thus, the ones who provided necessary permissions were included to the study. The data were collected by the first author of the study. Thus, the author began to develop rapport with the participant children by introducing herself to increase their willingness to join the main study by telling them, 'Today, I will tell you a story, and after that, we will do an activity. By doing so, the researcher was able to gain some information about the children, including their names, which allowed her to get to know the children better and create rapport. The researcher started to tell the children a story with the help of props, such as clothespins and rope, to attract the children's attention as well as to provide a more enjoyable experience. The text of the story presented to the children is provided in the following paragraph:

> 'There is a child called Ali. His most favourite activity is drawing, and every day, he draws a lot of pictures about what he sees around him. In the morning, he draws himself by looking at the mirror. One day, Ali takes his pencils and paper and goes outside. First, he looks at the sky and sees a lot of clouds, so he decides to draw the sky. After a while, he sees a car, a tree, and a house, and he draws all of them. Then, he gets tired and decides to go home, but on his way home, he sees something interesting. What do you think it can be?'

At the end of the story, the children were encouraged to offer ideas about what Ali saw on his way home. After recording their ideas, the researcher asked, 'The event was very funny. What could it have been?', thus encouraging the children to think about a funny incident. Rather than directly asking the children to create a funny drawing, this approach helped them think about funny incidents that they could illustrate in their drawing. The researcher then explained that Ali tried to draw what he saw, but he could not because he did not know how to create a funny drawing and therefore needed help from the children to draw the picture. At this point, the researcher asked the children if they could draw a funny picture of Ali.

The story was read to all children in the classroom, and they were all involved in the drawing activity, but only the drawings created by the participant children and by children who wanted to share and talk about their drawings and created a drawing considering the 'funniness' concept was included in this study. Some of the children created drawings that were not connected to the story, and the researcher eliminated those drawings. The storyline is provided in the pictures shown in Figure 1.

Figure 1. Storyline used in the data collection process

The data were collected with the teacher present in their classroom to ensure that the children felt comfortable communicating with the researcher. The audio recording method was used to avoid the risk of missing any data. The researcher also took notes during the interviews about her interpretations and additional questions to ask (Creswell, 2007). After the children completed their drawings, the researcher asked each child to talk about the funny elements and the story behind the drawing in the one-on-one interviews. The researcher asked questions such as 'What did you draw in your picture?', 'Why did you include those things?' and 'Why are they funny?'. Thus, the researcher had a chance to learn what the children laughed at by asking them questions related to their drawing. As the children drew their pictures in the classroom, the researcher asked for their responses to the questions in a quiet part of the classroom, and this process was carried out just after the drawing process to avoid losing the children's attention on the topic. The word "funny" was used rather than humorous because the word "funny" is usually more familiar to children. Thus, to avoid confusing them, the children were asked for their funny drawings rather than humorous drawings. This process, which included the story reading, drawing, and child interviews, took approximately 30–40 minutes to complete.

The researcher showed the illustrations taken from the picture books in the second part and presented the interview questions. This activity was conducted after the drawing activity to avoid the influence of illustrations on the children's drawings. Children's answers were taken during the one-on-one interviews in a separate room to remove any distractions. This process took approximately 10–15 minutes for each child.

For the final part of the study conducted with the teachers, the researcher asked semi-structured interview questions, but before this, she provided information about the confidentiality of the research. To avoid missing important data, the researcher asked the teachers to permit audio recordings; all participants agreed to it. The researcher also took full notes during the interviews, recording the points that required additional questions and her interpretation of the participants' answers (Creswell, 2007). The one-on-one interviews were conducted in a separate room to avoid distractions and took approximately 10–15 minutes for each participant.

Data Analysis

First, the audio recordings of the participant interviews were transcribed by the first author. In qualitative research, coding offers an understanding of chunks of data and allows for the capturing of the major points provided in the respondents' answers (Fraenkel et al., 2012). Therefore, in the current study, the main points from the teachers' and children's responses were coded. This coding process was undertaken by two different coders. One of the coders was the first author of the study and other coder was another researcher both of whom hold master's degrees in early childhood education and work as research assistants in education faculties at public universities. Deductive coding, in which the researcher begins by developing the codes and then afterwards conducting the analysis (Rivas, 2012), was used for the coding process in the current research. Almost all the codes were matched between the two coders; however, for some codes, the words and phrases were replaced by more generic terms to facilitate better understanding. The codes were determined using the Evaluation Form of Humorous Factors in Children's Books developed by Johnson (2010) and adapted to Turkish by Pala and Gönen (2018). Thus, the categories under McGhee's conceptual incongruity stage related to humorous illustrations were applied to the items in the children's drawings, as listed in Table 3. In addition, to create codes related to teachers' views on children's humour behaviours, Martin's explanation related to adaptive and maladaptive humour styles was used. Tables 3 and 4 provide a detailed explanation of the categories and codes used in the analysis of the data collected from children and teachers.

Table 3. Types of humour appreciated at different developmental stages

Age	Corresponding Stage(s)	Pictorial Humour Types	Verbal Humour Types	Situational Humour Types
1-2 years	McGhee's Stage 1 and Stage 2 Piaget's Sensorimotor		Non-language sounds Nonsense words Rhyming Erroneous labelling of objects	Pretend play with objects Tickling and body contact
2-7 years	McGhee's Stage 3 Piaget's Preoperational	Objects with incongruous features Physical deformities Caricature and exaggeration Masks, clowns	Joke telling Repetitious rhyming Slapstick	Mastered skills Body parts and potty humour Pranks and mischief Clumsiness
7+ years	McGhee's Stage 4 Piaget's Concrete Operations		Puns Knock-Knock jokes Irony Satire Riddles	Teasing Social mistakes made by peers Practical jokes

Note. Retrieved from Humour in children's picture books by Johnson (2010).

Table 4. Martin's Humour Styles

Type of Humour Style	Name of the Humour Style
Adaptive Humour Styles	Self-enhancing: Positive humour toward self Affiliative: Positive humour toward others
Maladaptive Humour Styles	Self-defeating: Negative humour toward self Aggressive: Negative humour toward others

Findings

Humorous Elements Included by 60-72-Month-Olds in Their Drawings

To encourage the children to produce humour, the researcher asked them to create a 'funny' picture, and when they finished, the researcher asked questions, such as 'What are the things in your drawing?', 'What are they doing in the drawing?', 'What are the things that make this drawing funny?' and 'Why do you think that they are funny?'. The findings from the children's drawings and comments in terms of their humour production were categorised and coded, as shown in Table 5.

Table 5. Factors included in funny drawing

Categories	Codes
Conceptual incongruity	Big/little people Giving human features to unloving things Giving animal features to people Unusual physical features Unusual combination of things
Physical deformity	Unusual size and number of body parts Unusual shape-colour of body parts
Caricature	Hurting somebody else Unusual/unappropriated behaviours of things
Exaggeration	Exaggerated number of things Exaggerated little or big size of things
Costume	Clown Nurse

The categories were prepared in accordance with the Evaluation Form of Humorous Factors in Children's Books developed by Johnson (2010). Table 3 shows that there were children who produced humour in every category within the form; however, they primarily produced humour using conceptual incongruity. The following drawings and statements from the children offer an understanding of their humour.

Figure 2. C13's drawing
There is a weird girl with a moustache. She also has more than one leg and a bottom on her belly. This is funny.

As illustrated in Figure 2, some of the children chose to include unusual physical features for the characters in their drawings. When asked why they drew such a picture, they most often responded that giving people different and weird features makes them funny.

In the second category, adding unusual features to objects or people was another way that the children created humour, with some of the children making absurd changes in terms of the colour, shape, size or number of something, as illustrated in the drawing below.

Figure 3. C17's drawing

There are two men in the drawing. One of them has very big ears. He tries to lower his head, but he cannot because his ears are too big. The other man also has big ears and is very tall. He tries to touch the floor with his hands but cannot do so because of his height.

The example in Figure 3 reveals that some of the children thought that they could create funny situations by assigning unusual features to their characters. Therefore, in their drawings, they created imaginary events caused by these unusual physical features and used these cause-effect situations to produce humour. In addition, the children created situations in their drawings that they thought were funny.

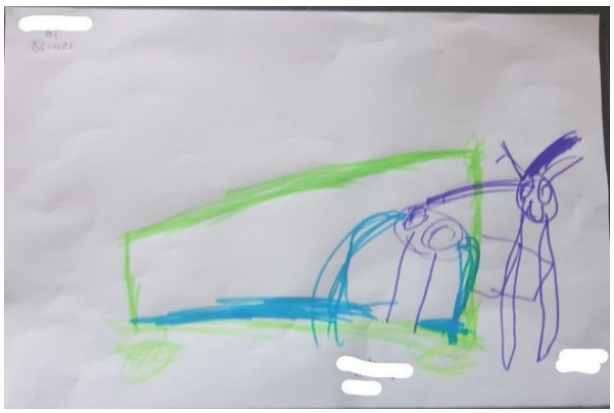

Figure 4. C21's drawing

In the drawing, there is a girl whose hair is caught in the car door. The girl is crying, and the entire car is getting wet because of her tears. The boy outside the car is laughing at the girl, because he was the one who had closed the door.

This scenario could be viewed as a negative situation. However, when the child was asked to talk about the drawing, he argued that the interaction between the two characters was funny. This was accepted as evidence that children use caricatures to produce humour.

In the analysis process, McGhee's humour development stages were used to offer interpretations of the children's responses related to their production of humour. McGhee (2002) offered a similar explanation for this age group, stating that children can produce humour in this age group based on the third level of his theory (i.e., conceptual incongruity).

Explanation by 60-72-Month-Old Children of the Humorous Factors in the Illustrations Provided

After asking the children to create funny drawings and then explain their drawings, the researcher showed one humorous illustration and asked questions to obtain the children's ideas about the picture. In the picture, there was a giraffe that was illustrated like a chair with a rabbit and hippopotamus sitting on the giraffe, who looked surprised. The children were asked questions about the illustration, such as 'What do you see in the drawing?', 'What do you think about this drawing?' and 'Is this funny? Why?'.

The illustration that was presented to the children included a conceptual incongruity theme. To provide a clearer understanding, the illustration was presented separately. All children could describe the characters in the drawings and talk about the animals depicted. Except for one child (C4), all the children stated that the giraffe illustration was a funny picture. The children were asked why they found the drawing funny; their responses are provided in Table 6 according to the categories from the literature.

Table 6. Children's views on the humorous illustration

Categories	Codes
Conceptual incongruity	Chair giraffe
Caricature	Amazed face

While commenting on the illustration, children primarily focused on the absurdity of the giraffe being a chair because, ordinarily, this is not possible. The comments from some of the children are presented below.

The hippopotamus is reading a book, and the rabbit is sleeping. However, they are doing this on the giraffe. A giraffe is not a chair. This is funny. (C2)

In addition to the incongruity within the illustration, some of the children found the facial expressions of the animals humorous. This situation falls within the caricature category (Johnson, 2010). For example, C7 (pointing to the giraffe) said, 'The giraffe's face is very funny and shows amazement when the animals sat on the giraffe'. However, C4 did not find the drawing funny, explaining that

> The hippopotamus is just sitting, and the rabbit is just reading a book. Here, the rabbit is laughing. These are not funny things. They are usual. Because they are sitting on the giraffe, it may be a little funny, but not that much. (C4)

These extracts show that the children appreciated the humorous illustrations by realising the incongruity and explained this through differing aspects of the incongruity that they recognised, such as the giraffe being a chair or having different facial expressions.

Teachers' Description of the Sense of Humour and Humour Styles of the Children in Their Classes

For the teacher interviews, the questions focused specifically on the children within their classroom who had participated in making funny drawings as part of the study. The aim of these questions was to determine whether there was an overlap between the way in which children produced humour and the way in which the teacher explained the children's humour. Therefore, the question, 'What are the humorous characteristics that C* shows in the classroom?' was asked to the teachers in each classroom. In their responses, the teachers mainly focused on how the children used humour rather than commenting on the children's development in terms of humour understanding, appreciation or production. McGhee (1974) described the use of physical humour that negatively affects relationships in two main styles: adaptive and maladaptive. Maladaptive humour concerns the use of humour that harms the self or others, whereas the aim of adaptive humour is to provide joy to oneself and others. There is no sarcasm, humiliation or negative criticism in adaptive humour.

Table 7. Teacher's views on their students' humour behaviours

Categories	Codes
Maladaptive Humour	Uses physical humour that affects relationships negatively
Adaptive Humour	Likes to laugh and make jokes Uses humour on his/her own Shares humour with others Reflects usual things in a funny way
No Humour	Does not use humour

According to the teachers' descriptions, some children showed both adaptive and maladaptive humour (Table 7). However, some of the teachers described some children as having no humour at all. To explain maladaptive humour in children, the teachers stated that children sometimes used physical humour, but because this humour hurt others, it adversely affected their relationships, and these children were not chosen by others to play with. An example of this situation concerning C7 was given by T2:

> His physical development is better than his classmates'. He makes a number of physical jokes, and this is too much for the other children. Their relationships are affected adversely. He causes pain to the other children. My warnings help to restrict his behaviour.

For the second category, adaptive humour, the teachers described different ways, such as sharing humour with others and reflecting humour in a funny manner; for example, some of the children used humour within their social group. To create humour, they needed to have others around them, and as a result, they liked to make other children laugh and enjoy things with them. In this context, T5 described C19 as follows:

> She has a good sense of humour. She gets on well with her friends. Her social abilities are developed, and her relationships with friends are strong. When playing with classmates, she enjoys role-playing and makes jokes and calls her friends to join her. After creating a play or humorous situation, she includes her friends in it.

The final category that was created from the responses to this question included children who were perceived by their teachers as having no sense of humour when they were found not to incorporate humour into their play and communication. The teachers stated that they had not observed humour from these children and were not sure what they would laugh at. For example, C2 was described by T1 as:

> I have not seen any humour in him. He does not use humour in his relationships or play.

Finally, T4's ideas on C15 for this code were as follows:

> He is a sweet-natured child. Some children can laugh at inappropriate things. However, C15 does not participate in this kind of humour. He smiles at everything, but I did not observe any humorous behaviour in him.

Summary

Several findings were revealed from the data of this current study. First, the children showed humour behaviours parallel to McGhee's humour development theory, and in producing humour in their drawings, they used related items. In the explanations of their drawings, the children also explained the logic of their humour. While commenting on the humorous illustration, the children could understand the main idea of the illustration and explain why the illustration was funny, identifying the conceptual incongruity within the illustration.

In the teacher part of this current study, the teachers generally identified humour as a source of joy and satisfaction and argued that humour must be part of every aspect of people's lives. In early childhood education, humour can benefit children's development, learning and communication. The teachers commented that humour should be utilised within the classroom; however, they did not think about including humour within their lesson planning, teaching, classroom management and/or communication with children. For them, humour had to occur spontaneously within the classroom. When asked about their students' humour behaviours, the teachers primarily commented on the humorous behaviour observed while the children interacted with one another. If no humorous behaviour was observed for a specific child, the teachers described this child as exhibiting no humour behaviour or lacking humour development. These findings reveal how children and teachers approach humour in early childhood education. In the next section, the findings of the related literature are discussed.

Discussion

The aim of the current study was to examine how children appreciate and produce humour, as well as what the views of early childhood teachers were regarding humour in children within their classroom. An analysis of the findings revealed that the children exhibited humour behaviours in parallel with McGhee's theory. Furthermore, an examination of the teachers' views revealed that they primarily focused on whether the children socially exhibited humour behaviours. That is, having humour development was related to the children's observable humour behaviours within the classroom and among their peers. Regarding the findings of the current study, there is related literature that provides both contradictory and parallel ideas.

Humour from Children's Perspective

An examination of the categories created from the children's drawings revealed findings similar to those reported by certain previous studies (e.g., Loizou (2011)). Rather than asking the children to draw, Loizou asked them to take photographs of funny things and then explain why they were funny. Her results indicated that children's humour is mainly based on incongruity; this finding is supported by our current investigation. Moreover, Loizou and Kyriakou (2015) noted that children use incongruities such as colour violation, humorous symbols, feature violations and violence. Similar categories also emerged from the current study. Violence, for example, was observed in some of the drawings produced by a sample of 60-72-month-old children from a preschool in Tokat, Turkey. Their explanations for why their drawing was funny included 'making somebody else hurt', which illustrates similar humour production patterns. In addition, a notable feature of the violation category was the unusual presentation of the various elements of their drawings.

According to McGhee, humour capacity develops with the development of cognitive skills. Cognitive changes affected by age result in changes in children's humour appreciation and production (Johnson, 2010). In the current study, the children produced drawings related to the categories described for their age group and developmental stage. McGhee (2018) stated that, with age and developed cognitive abilities, children begin to understand more complex humorous situations. From this perspective, the

results of the studies support each other.

In addition to humour production, humour appreciation was considered in the study. Almost all children focused on the incongruity within the illustration presented to them. This revealed the children's capability to understand humour. Similarly, Loizou (2006) found that young children can recognise and appreciate humour by understanding the incongruities of a provided situation. This situation can be utilised to test children's schema development because children laugh when something does not fit their schemas. With age, the number of schemas increases and children's understanding of humour develops. Loizou (2006) explained this situation using McGhee's description of the conceptual incongruity stage and Brown's visual incongruities category, as they provide a suitable explanation for how children understand the humorous items in a picture. In terms of understanding children's ideas about what is funny in a provided illustration, Chik et al.'s (2005) findings can be used to corroborate the ideas expressed by the children in Tokat regarding their understanding and appreciation of humour within the illustration presented to them in terms of its incongruities.

The universality of humour is also provided in the evidence from the present study, given that previous studies conducted in different countries with differing cultures regarding their sense of humour have reported that incongruities are a common element found in the appreciation of humour across cultures. Guo et al. (2011) stated that culture is an effective factor in humour along with cognitive development and that people adapt their humorous behaviours to the expectations of society. For example, in some cultures, children typically change their humorous behaviours with age to show that they are mature. Thus, humour develops with improvements in cognitive skills, but the effects of culture are undeniable.

Children's Humour from Teachers' Perspectives

The final findings of the current study revealed how the teachers explained children's humour behaviours. In the maladaptive humour category, the teachers explained that some of the children used humour in a negative manner. For example, they used physical jokes that their peers did not like, and because of these jokes, these children became undesired peers within their social environment. According to Oberjohn (2002), while humour increases the level of peer acceptance and friendships, when used in a negative manner, such as teasing, acceptance among peers becomes more difficult and friendship bonds are weakened by these negative behaviours. Martin (2007) also explained this process in his studies, in which the children use maladaptive humour to feel better, but as a result, harm both themselves and others. Veatch also referred to the relationship between violence and humour in his theory (as cited in Sayar, 2012). Because children are aware that violence is an inappropriate action, it is considered humorous to them. As this goes against expected behaviour, even if humour is seen as a powerful tool for developing positive social relationships (Kuipers, 2010), it can negatively affect such relationships, depending on the way it is utilised.

While describing children's humour and how it is produced, the teachers also mentioned the use of adaptive humour that was not aimed at harming others but served instead to heighten their enjoyment. According to McGhee (1979), children start to produce humour at the age of 3–6-years-old, depending on the level of their cognitive processing. While Morrison (2008) explained humour with linguistic abilities, Lang and Hoon (2010) and Ghayas and Malik (2013) argued that the production of humour requires creative abilities.

Finally, some of the teachers in the current study described some children in their classroom as having little or no humour development. In explaining the reasons for this, they stated that such children were silent, sweet-natured and calm; while the relatively active and social children had a more developed sense of humour. However, when their drawings and statements on the drawings were examined, all the children were seen to produce humour, as described in McGhee's humour development stages. When the descriptions from the teachers regarding humour development in their children were examined, it appeared certain that their observations reflected their cultural attitudes. In their study of Greek and Chinese children, Guo et al. (2011) exemplified how culture affects humour. They found that, particularly

in China, children's humour responses decrease with age and the development of cognitive skills. Clearly, children are affected differently by their cultures (Greenfield et al., 2003; Wellman et al., 2006). Therefore, even when children go through similar processes in terms of cognition and humour development, differences in their cultures affect their humour.

Conclusion

The current study revealed that the participating children exhibited characteristics similar to McGhee's description in terms of humour. Even if humorous behaviour changed depending on gender, culture or background, the source of humour was similar in all children. This finding was the same for both children's appreciation and their production of humour. In addition to the data collected from the children in this study, the teachers provided data regarding what they understood about children's humour. There were some concerns about the teachers' explanation of the children's humour behaviours that occurred within their classroom, in that they evaluated the children's humour development solely by observing the children's social relations with their peers. Therefore, it could be said that the teachers needed more information in terms of observing the children's humour development, even when the children exhibited these humour behaviours within their social interactions. To conclude, there are ways to not only understand but also support children's humour development, and certain teaching practises within the classroom can enhance the development and use of humour among the students.

Further Research

The current study can be utilised as a basis for future research that can include a larger sample including participants from differing schools, locations and age groups. By doing so within Turkey, children's humour development can be examined more comprehensively. In addition, parents can be included in similar future studies because they play an extremely vital role in their children's overall development, which includes humour development. Furthermore, as seen in the current study, culture plays a role in people's humour development. Thus, collaborative studies can be conducted with members of other cultures. In the current study, semi-structured questions and qualitative methods were used to obtain a sufficient understanding of the participants' views; however, to reach more participants, quantitative research methodologies can be utilised. Only in-service teachers were included in this study, and in the process of learning more about their views regarding humour, it was revealed that they had not received any formal training in this area. Therefore, it should be considered relevant to better determine how the views of teacher candidates in Turkey regarding humour can be more fully developed and utilised in their future teaching careers. In doing so, how best to enable them to utilise what they have learnt about children's humour use and development within their future lesson planning, teaching, classroom management and/or communication with children should be determined.

Declarations

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A longitudinal investigation of the effects of parental discipline strategies on social competence in early childhood

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Abstract: In the current study, we investigated the associations between parenting discipline strategies (i.e., physical punishment and non-violent punishment) and social development using n = 3265 reports from primary caregivers across three waves of data. Analyses were conducted using cross-lagged structural equation modeling, where we evaluated the developmental effects of physical punishment and non-violent punishment on social competence. The findings showed partial support for developmental changes between non-violent punishment and social competence unfold reciprocally and longitudinally; the relationship between physical punishment and social competence appeared unrelated, as physical punishment in Wave 2 only negatively predicted social competence in Wave 3. These findings underscore the importance of understanding the developmental pathways for parenting discipline strategies and social skill development among children living in urban neighborhoods.

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Introduction

The development of social competence in early childhood has long been documented as a critical component of positive adjustment outcomes (Akhtar et al., 2017; Huber et al., 2019; Rose-Krasnor, 1997). Developmental researchers recognize that children develop important prosocial skills, including communication, cooperation, as well as emotional regulation skills, based on meaningful and appropriate interactions with others (Dodge et al., 1986). Studies testing the relationship between social competence and adjustment outcomes have focused on the importance of early socialization processes between the parent and the child (Baker et al., 2011; Mirabile et al., 2018; Spruijt et al., 2019). These studies have been uniquely framed by Baumrind's (1978) traditional parenting typology and extended by Maccoby and Martin (1983) to include authoritative, authoritarian, permissive, and neglectful parenting styles based on two dimensions, i.e., "demandingness or control" and "responsiveness or "warmth." According to the research, parenting dimensions assess *demandingness* as the degree to which parents control children's behavior and can range from using such behavioral control methods as physical punishment, i.e., spanking, to rule-setting. In contrast, responsiveness includes parental behaviors that demonstrate warmth and support; examples include time-out and removal of privileges or admonishment of the child, which has been associated with a decrease in undesired behaviors in children (Gonzalez et al., 2019).

In reviewing the literature on parenting styles and its consequence, one area that has received considerable empirical attention is parental discipline practices. These efforts defined physical punishment as aggressive or violent behaviors by parents such as hitting, smacking, slapping, and spanking a child (Brown et al., 2018; Gonzalez et al., 2019) "to control their child's misbehavior and to promote compliance" (Straus & Donnelly, 2017, p. 4). Most studies examining physical discipline methods found that parents' use of stringent discipline increases the risk of long-term adverse outcomes including depression, low self-control, and poor cognitive and social skills which heightens the risk of maltreatment across the lifespan

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(Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021; Piko et al., 2012; Yildirim et al., 2020); although positive effects of physical discipline were observed in African American children (Simons et al., 2013). Other studies examined links between non-physical discipline methods and effects (LeCuyer et al., 2011; Ma et al., 2022) and demonstrated that non-physical discipline reduced the risk of harmful outcomes and increased prosocial behaviors and social skills, especially in young children over time (Yu et al., 2018). While these studies identified parental discipline as a significant predictor of behavioral outcomes in children (LeCuyer et al., 2011), more recent studies add support for the reciprocal or bidirectional nature of these effects (Xing et al., 2021), thus supporting our approach to exploring the bidirectional impact of parental discipline in the study.

Although the link between parental physical discipline and negative child and adolescent outcomes seems to be well established in research, there remains a cultural debate on its use as well as the effects of physical discipline among ethnic groups (Heilmann et al., 2021; Tompkins & Villaruel, 2022; Ward et al., 2022; Wolf & Suntheimer, 2020). Research on diverse samples showed that African American parents are more likely to report the use of physical punishment as a form of discipline in children; a direct contrast to European American and Hispanic parents (Gershoff et al., 2018a; Lansford et al., 2004; Simons & Wurtele, 2010). Indeed, African American parents have been found to endorse the use of physical punishment as an appropriate method of discipline approach more readily than their European American counterparts, who are more likely to approve of non-physical discipline styles (Flynn, 1998; Gershoff et al., 2018b; Simons et al., 2013). Despite the prevalence and acceptability of physical discipline use by African American parents, numerous studies noted increased positive behaviors in African American children over time, and more adverse effects were observed in European American youth (McLoyd & Smith, 2002). The use of physical discipline by African American parents is best understood in the *cultural normative context* (Deater-Deckard & Dodge, 1997), which suggests that both the parent and child are socialized to perceive physical punishment as a typical developmental experience; thus, they are more willing to accept its practice.

While parental discipline outcomes can be attributed to cultural factors, namely race or ethnicity of parents, some studies have focused on other contextual factors such as neighborhood and family factors that can also impact behavior outcomes in childhood and adolescence (Kotchick & Forehand, 2002). In this context, there is strong evidence that higher rates of physical discipline were found among youth in urban settings (Creavey et al., 2018). This is because parents in disadvantaged neighborhoods often experience additional family stressors such as lower socioeconomic status and family stability, which may increase the likelihood of harsh childrearing practices such as physical punishment in such environments (Creavey et al., 2018). In this sense, it is helpful to explore the impact of parental discipline on child outcomes above and beyond the contextual effects of ethnicity and family structure to better understand the associations between parental discipline practices and children's social competence in diverse urban contexts.

Despite the evidence in the literature, physical discipline remains a common practice by parents in most U.S. households; there is a general lack of knowledge on the use of physical punishment practices such as spanking across developmental stages, making it difficult to explicitly test for consequences of physical discipline over time. Thus, for researchers to fully understand the developmental implications of physical discipline and expand on the existing knowledge base, the current study investigates developmental changes between two parental discipline strategies (physical and non-violent punishment) and social competence above and beyond the influence of individual characteristics of the sample.

The Current Study

Using three waves of data, we tested the reciprocal and longitudinal associations between two parental discipline strategies—physical discipline and non-violent discipline—on children's social competence and vice versa. Further, we tested the extent these effects varied across control variables, i.e., ethnicity/race (i.e., European American, African American/Black, Hispanic/Latino, and Other) and family

structure (i.e., two biological parents vs. other family situation) as these factors seem to provide additional information on understanding parenting disciplinary practices within context.

Method

Sample and Procedures

The study was approved by the Institutional Review Board (IRB) at the University of Arkansas at Pine Bluff. Data were part of the Fragile Families and Child Wellbeing Study (FFCWS) public use dataset available. Data are free to download from Princeton University's Office of Population Research (OPR) data archive. A detailed description of the FFCWS sampling and design can be found elsewhere (Reichman et al., 2001). The current study examined primary caregiver and children interviews from 20 large cities between 1998 and 2000 (Waldfogel et al., 2010). Primary caregivers consisted of biological parental caregivers (mothers and fathers) and non-biological parental caregivers who were interviewed at or shortly after the child's birth and subsequently interviewed through additional waves of data, i.e., age 3 (Wave 3), 5 (Wave 4), and 9 (Wave 5), respectively. Our analyses focused on 3,265 primary caregivers (biological and non-biological) who participated in the study across three data points. Based on the responses, 26.5% of children reported living in households with two biological parents as caregivers.

Measures

Family structure variable. Youth in the study were asked to describe their current living situations. Responses were given as 1= biological mother and father, 2 = biological mother and a new partner, 3 = mother only, 4 = biological father and her new partner, 5 = biological father only, and 6 = other primary caregivers. These responses were dichotomized into two groups 1 = two biological parents situation and 2 = other parent situation.

Ethnicity/Race. The youth in the sample were asked to report their ethnicity. Responses were given as 1 = European American only, non-Hispanic, 2 = African American/Black, non-Hispanic, 3 = Hispanic/Latino, 4 = Other, non-Hispanic, and 5 = Multiracial, non-Hispanic. The sample participants for each ethnicity included African American/Black (58.7%), European American (14.9%), Hispanic/Latino (19%), and Other ethnic groups (7.4%). The responses were grouped into four categories for our analyses where 1 = White only, non-Hispanic, 2 = African American/Black, non-Hispanic, 3 = Hispanic/Latino, and 4 = Other. More than half the sample (67.1%) were African American.

Physical punishment. The primary caregiver's use of physical punishment strategies was measured by a subset of 5 items from the Conflict-Tactic Scale (CTS) by Straus et al. (1998), which includes questions on physical punishment, e.g., spanking and slapping. Response choices reflected the frequency of each behavior's use in the last 12 months ranging from 0 = never to 6 = more than 20 times. Cronbach's alphas ranged from .71 to .88.

Non-violent punishment. Primary caregivers reported their use of non-violent disciplinary methods using 4-items from the Conflict-Tactic Scale (CTS) by Straus et al. (1998). The questions assessed the use of violent discipline methods where primary caregivers (1) explained to the child why something was wrong, (2) gave the child something else to do instead of what they were doing wrong, (3) took away privileges or grounded, and (4) put the child in in "time out" or sent the child to their room. Response choices reflected the frequency of each behavior's use in the last 12 months ranging from 0 = never to 6 = more than 20 times during the past 12 months. Cronbach's alphas ranged from .75 to .84.

Social competence. Primary caregivers reported children's social competence using the 9-items adapted from the 13-item express subscale of sociability and empathy from the Adaptive Social Behavior Inventory (ABSI) (Hogan et al., 1992; Greenfield et al., 1997). For the study, each primary caregiver was asked to indicate whether the child; understands others' feelings when they are happy, is open and direct about what he/she wants, whether the child was sympathetic to other children's distress, or is confident

with other people. Responses ranged from was not true (0), sometimes or somewhat true (1), or very true or often true of her child (2). Cronbach's alphas ranged from .71 to .91.

Data Analysis Plan

An examination of skewness and kurtosis of main study variables was in an acceptable range, i.e., below +2 and -2 (George & Mallery, 2019), whereas incomplete or missing data were handled via Full Information Maximum Likelihood (FIML) in AMOS. The analyses consisted of crossed-lagged regression models to assess developmental changes between parental discipline strategies (physical punishment and non-violent punishment) and social competence across three waves of data using structural equation modeling (See Figure 1). Standard fit statistics, including the comparative fit index (CFI), the root means square error of approximation (RMSEA), and the chi-square statistic, were used to assess model fit across all path analyses (Byrne, 2013). To test for differences in the model using two control variables (race and family structure), we conducted multigroup comparisons by family structure and ethnicity, where free default models (unconstrained) were compared to fixed models (constrained). A summary of the fit for the unconstrained and constrained models for both race and family structure is reported in Table 2.

Results

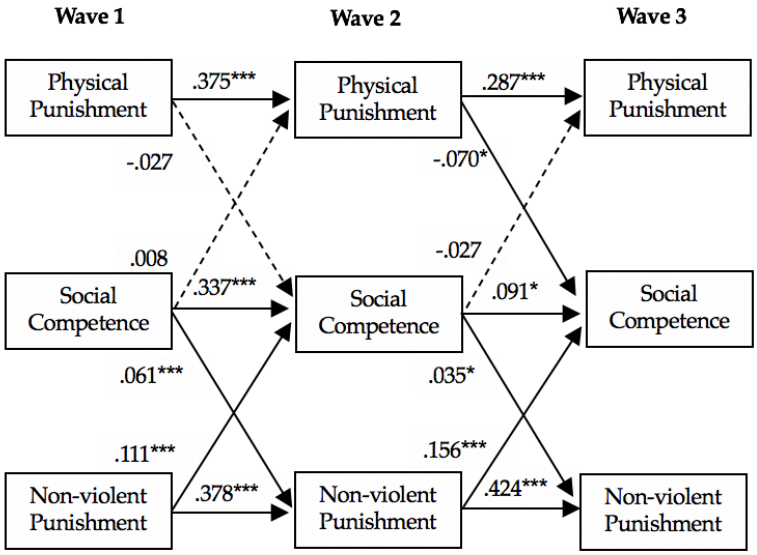
The descriptive statistics of the study items for the three points of data are included in Table 1. The bivariate correlations between parental discipline measures (physical punishment and non-violent punishment) and social competence across three waves of data are shown in Table 2. The correlations indicate that physical punishment and social competence were not consistently related across three-time points. For example, physical punishment at T1 was positively correlated with social competence at T1 through T3; *r*s = .05, p <.05; but physical punishment appeared unrelated to social competence at all other time points. On the contrary, non-violent discipline and school competence were positively correlated with social competence across each wave—*r*s ranged from .08 to .16.

Table 1. Correlations between parental discipline and social competence

	Variables	α	*M*	*SD*	1	2	3	4	5	6	7	8	9
1.	Physical Punishment T1	.79	3.52	1.38	–								
2.	Physical Punishment T2	.71	3.22	1.31	**.36****	–							
3.	Physical Punishment T3	.88	2.42	1.10	**.24****	**.30****	–						
4.	Non-violent Punishment T1	.75	4.69	1.10	**.47****	**.23****	**.16****	–					
5.	Non-violent Punishment T2	.79	4.62	1.12	**.22****	**.45****	**.21****	**.40****	–				
6.	Non-violent Punishment T3	.84	3.80	1.29	**.23****	**.27****	**.53****	**.37****	**.45****	–			
7.	Social Competence T1	.71	1.71	.29	**.05***	.02	-.03	**.16****	**.12****	**.10*****	–		
8.	Social Competence T2	.76	1.73	.30	**.05***	.01	-.02	**.15****	**.13****	**.08****	**.35****	–	
9.	Social Competence T3	.91	1.84	.28	**.05***	.02	.03	**.11***	**.14****	**.17****	**.12****	**.11****	–

Note. Significant coefficients are bolded.
*p < .05; **p < .01 ***p<.001

An examination of longitudinal paths in the developmental changes between physical punishment and social competence showed, as expected that non-violent punishment positively and significantly predicted social competence at each time point (βs ranged from .111 to .156, *ps* = .001). Reciprocal effects were also observed for social competence, which positively predicted physical punishment (βs ranged from .035 to .061, p<.05 and p<.001, respectively). By contrast, the association between physical punishment and social competence showed physical punishment at T2 negatively predicted social competence at T3 (β = –.070, p <.05) but did not predict physical punishment at T1 and social competence at T2. Significant stability paths were observed over the three-time points. Fit indices provided evidence of adequate model fit ,χ2 (3265) = 237.725, df = 13, p <.001; CFI = .943, NFI = .940, RMSEA = .059.



Note. $\chi 2$ (3265) = 237.725, df = 13, p <.001; CFI = .943, NFI = .940, RMSEA = .059

$^{*}p < .05$
$^{***}p < .001$

Figure 1. Cross-lagged analysis of physical disciplinary strategies and social competence

Next, additional analysis tested for longitudinal invariance across family structure and ethnicity, although there were no significant differences. The analysis of family structure (two-parent vs. other parent situation) indicated a similar result across all family structure groups. As for invariance across ethnicity, the multigroup analysis of invariance showed no evidence of variation across racial/ethnic groups.

Table 2. Multigroup Analysis of relationships across background variables

Variables		$\chi^2(df)$	p	CFI	NFI	RMSEA	$\Delta\chi^2$	ΔCFI	ΔRMSEA
1. Family Structure	Unconstrained Model	231.984 (26)	<.001	.939	.933	.048	–	–	–
	Constrained Model	241.251(34)	<.001	.938	.930	.042	9.267	.001	006
2. Ethnicity/Race	Unconstrained Model	223.113 (52)	<.001	.944	.931	.032	–	–	–
	Constrained Model	246.551(76)	<.001	.944	.924	.026	23.438	.000	.006

Note. χ^2= Chi-square statistic, *df* = degrees of freedom, χ^2/df = chi-square to degrees of freedom ratio, $\Delta\chi^2$/df = difference in chi-square between the default and unconstrained and constrained models, CFI = comparative fit index, ΔCFI = difference in comparative fit index between the default model and the unconstrained and constrained models NFI = Normed Fit Index, RMSEA = root mean square error of approximation, ΔRMSEA = difference in RMSEA between the unconstrained and constrained models.

Discussion

The current study investigated the importance of understanding parental discipline strategies and social competence over time in a young urban sample. Drawing on Baumrind's parenting typology to examine the effect of parenting behaviors on social competence, we assessed the reciprocal or bidirectional effects between two parental disciplinary strategies—physical punishment and non-violent punishment—and their impact on social competence. Because we expected sample characteristics such as ethnicity/race as well as family structure to influence parental discipline in this population, we controlled for these effects in multivariate analyses across cross-lagged effects. Overall, we found partial support for reciprocal effects between parenting and social competence in the sample. This is in line with previous work, which found mixed support for the link between parental discipline and social competence; our study explored parental discipline techniques using longitudinal data, thus providing insight into parental discipline methods over time. In addition, while it is debated whether parental disciplinary practices can vary across cultures, including ethnicity and family structure, the findings demonstrate that even when controlling for these effects, the effects remained consistent; thus, no differences were observed in the sample where over 50%

of the families were African American.

Nevertheless, in keeping with the main study goals, we found evidence that effective parental discipline methods increased the likelihood of positive outcomes. Our finding is consistent with existing work that suggests parental disciplinary strategies characterized by high levels of responsiveness or warmth promote socially competent behaviors in young children (Barnett et al., 2012; Bigner & Gerhardt, 2019; Jeon & Neppl, 2019; Spruijt et al., 2019). Contrary to our expectations, when it came to the link between physical punishment and social competence, physical punishment at T2 negatively predicted social competence at T3 but seemed unrelated to social competence at the other time points. The significant negative association between physical punishment and social competence supports the findings in the review by Gershoff and colleagues (2018a), which shows physical punishment in children increases the risk for negative behavioral (Ma et al., 2022) and psychological in late years. Consequently, the findings reinforce the need for parents to use alternative disciplinary techniques as punishment to promote the development of social skills in young children.

The present study was limited in that parenting disciplinary strategies and social competence were based exclusively on primary caregivers' reports, which may affect social desirability in the responses. Thus, to fully understand the impact of discipline on social competence, it is important to include reports by children as well as teachers. Although not a focus of this study, we can assume that the association between parental discipline and social competence might vary by the sex of the child. This is supported by other studies which suggest parents are more likely to use physical punishment in boys than girls (Marshall et al., 2021). Thus, there is also a need to compare the associations between discipline and social competency in girls and boys. While these efforts may have provided additional insight into these relationships, the current findings improve our understanding of the developmental changes between parenting discipline practices and social competencies during childhood years and broaden the existing work by using an ethnically diverse urban sample. Although the study does not allow us to detect changes in parental discipline over time, the data suggest primary caregivers reported greater use of non-violent methods of discipline; however, physical punishment methods appeared to decrease over time, as physical punishment scores gradually declined in later years. Future studies should incorporate additional parental discipline measures to understand the pathways between parental discipline and social competence (i.e., prosocial behaviors), especially given the heterogeneity of urban families.

Finally, the results of the study provide partial evidence for bidirectional relationships between parental discipline and social competence; our findings have implications for prevention and intervention programs aimed at developing social competence among youth living in high-risk urban settings. These findings suggest that early childcare professionals should increase parental involvement in education which is important to improving communication with parents and vice versa, thereby increasing children's social competence. Thus, including parents and teachers in Early Childhood Education and Care (ECEC) may support healthy social competencies, which are vital to education and learning. Also, the results of the study emphasize the importance of discipline in the development of social skills, even in a high-risk sample. Consequently, early childcare professionals should discourage physical punishment, such as spanking to reduce the risk of poor social competence in subsequent years. Given that the majority of the sample includes at-risk families, it is even vital for childcare professionals in this population to encourage caregivers to use positive parenting discipline to foster more positive behaviors in children from a young age to protect against adverse outcomes in later years.

Declarations

Authors' Declarations

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Research Article

Allowing for segregation in ECEC? Legal conditions, administrative structures and enrolment practice in Germany

Gesine Nebe[1]

Abstract: Supposedly children are to learn together in surroundings mirroring the overall democratic and diverse make-up of society. Segregation in ECEC is undesirable. However, substantial segregation exists - even in systems designed for universal, high-quality ECEC provision. While some research has already carved out the role of parents´ choice of institutions, little is known about how children are selected by institutions. This article attempts to shed light on institutional choice as a variable for segregation. Including a detailed picture of the German ECEC system and pointing out administrative relations between municipalities and providers in Germany, this article will depict enrolment. It will draw an empirically based 'tryptich', focusing on municipalities´, provider organisation managers` and ECEC centre managers` views on enrolment. Findings will lead to a call for providers and municipalities to join efforts in order to design and implement enrolment procedures that prevent segregation.

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Segregation; Legal conditions; Administrative structures; Enrolment practice; ECEC allocation

Introduction

"It is a system that first strikes me as strange,
and eventually as utterly unfair..."
(Okwonga, 2021, p. 28)

In his 2021 novel "One of them. – An Eton College Memoir." author Musa Okwonga gives insight into his five years at Eton College and Oxford. Despite having been an insider of most prestigious schools he feels that he stayed an outsider in British society. – He feels that - coming from a Ugandan immigrant family, being a person of colour – he has to work harder, achieve more, even be more. Only slowly it dawns on him that this is not to do with him personally but instead with the distribution of wealth, systemic racism and other wider social questions in Great Britain. The more he reflects on different starting points and paths towards social positions classmates attained, the more he becomes irritated with the system he used to refer to as *normal*. It "first strikes" him "as strange and eventually as utterly unfair". As a researcher, focusing on segregation in the Early Childhood Education and Care (ECEC) system I found myself most intrigued in particular by this short statement. Because, indeed, at first it struck me, too, as rather strange that in Germany enrolment[2] practices should be in place, that potentially lead to segregated ECEC services[3]. The deeper my empirically based knowledge of conditions, structures and practices of child care distribution grew, the more I came to understand that the legal conditions and administrative structures indeed allow for ECEC enrolment procedures that, albeit on the surface might appear "utterly unfair", from a micro perspective, must be considered neither fair nor unfair but perhaps are worthy of improvement.

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[2] Enrolment procedures is the term that will be used to describe actions and interactions between individuals regarding an aspired use of an ECEC service. Clearly, it is defined by its end point which is the actual conclusion of a service contract between the child´s legal representatives and the child care provider organisation. Besides that it potentially comprises a multitude of possible encounters between municipality-, provider- and centre-staff and can involve artifacts such as documents, forms etc.

[3] In the following out-of-home education and care for children aged one year to their school entry in youth welfare institutions will mainly be termed Early Childhood Education and Care (or - for readability reasons - the abbreviation ECEC), day-care centres, day-care services, ECEC settings and early education. Those terms will be used synonymously.

In this article I will present readers with empirically based findings that underpin the latter and might inspire administrative levels such as municipalities as well as provider management to tend to enrolment procedures. Therefore, after introducing data and methods of the research, I will, first, give an overview of the German ECEC system in place. Also, a schema will be introduced – coined the "child care distribution triangle" – which helps to better understand the relations between parents, municipalities and ECEC providers/centre managers. Furthermore, aiming to give a detailed description of enrolment, I will depict an 'enrolment tryptich': enrolment will be described as it emerged from interviews and other data gathered on the municipality level, the provider level and the centre management level. I will discuss the findings presented accentuating the overall question of 'how segregated ECEC programmes happen' c.f.:(Frankenberg, 2016, p. 21) and therefore link the depicted enrolment procedures to administrative and legal conditions in the German ECEC system. At last, the conclusion will suggest that the system might 'allow' for segregation but at the same time, in general, it demands responsible decisions preventing segregation. Tending to (re)shaping decision-making processes accordingly is urgent challenge municipalities and ECEC providers (including centre management staff) must master collectively.

Segregation in ECEC in Germany

'Beneficial for all', 'inclusive', 'most effectfully influencing positive development of children', helping 'reverse disadvantage' (European Commission, 2011, p. 3–4) – those are only a few, yet, paradigmatic beliefs about the positive influence of ECEC regarding inclusion and educational equality. In particular, since peer groups are believed to have great impact on children´s, the composition of child care settings is held important, too (Vandenbroeck, 2015a, p. 107; 2015b). Positive effects are in particular linked to mixed groups. However, homogenous groups or groups with high concentration of children from disadvantaged and under-privileged families negatively influence children´s learning composition effects regarding language development (Hogrebe, Pomykaj et al., 2021).

Segregation, defined by Hogrebe, Pomykaj et al. (2021) as "an unequal distribution of population groups resulting from spatial differentiation, sorting, and separation processes" (p. 37) is an issue that has been on the core of urban sociology for decades. Here in particular two of the main issues - ethnic and social segregation – have been studied (Farwick, 2012, 2018). Taking into account what has been said regarding negative effects of homogenous peer groups, it is clear that ethnic as well as social segregation are relevant issues in childhood research, too. Besides, since attendance of ECEC in most cases is a child´s first step into society it is held important (Vandenbroeck, 2015a) as to "mirror" (p. 109) society regarding plurality and democracy. Segregated ECEC, "contradicts (…) the idea of social inclusion and democracy" (Hogrebe, Pomykaj et al., 2021, p. 37).

However, research on the issue is alarmingly insufficient. What we do know, though, is: high concentrations of children with disadvantages are found in particular in urban agglomerations in West-Germany (Autorengruppe Bildungsberichterstattung, 2020) and lower concentrations can be found in rural areas in East-Germany (Olszenka & Meiner-Teubner, 2020). We also know that it is more likely for children from migrant backgrounds to have peers from migrant backgrounds (Gambaro, 2017; Gambaro et al., 2020). Interestingly, segregation in ECEC services in certain neighbourhoods is not directly linked to residential segregation. It goes beyond; the composition of neighbourhood does not always carry over to ECEC clienteles (Hogrebe, 2014). There is some indication to ECEC segregation being linked to provider specifics – here in particular parent initiatives are remarkable examples, as Hogrebe showed (Hogrebe, 2016b). Some research, in addition, gives first evidence of the relevance of enrolment procedures that are in place in segregation (Hogrebe, Mierendorff et al., 2021; Nebe, 2021).

In general, research on segregation in ECEC is scarce internationally, too. Research on segregation in the U.S. focuses on racial segregation and partly on social segregation, results cannot easily be transferred to the German system, due to historic and structural differences (Hogrebe, Pomykay et al., 2021). However, that research should problematize segregation in ECEC is underpinned by results of a study undertaken in the study of Oslo: Drange and Telle indicate on the basis of extensive data about the enrolment procedures in the municipality of Oslo, that even in an inclusive and universal ECEC system as

the Norwegian substantial segregation exists. They, also, point to certain procedures that make it for example less likely for disadvantaged families to have their child enrolled in certain ECEC services (Drange & Telle, 2021). If – and to what extent and due to which structures and legislative conditions - segregation in ECEC exists internationally, is yet to be researched.

The Role of Parental and Institutional Choice

As to the question of how observed segregation in ECEC was actually 'done' or from what practices it results, we cannot draw on much research, either. Hogrebe, Pomykaj et al. (2021) rightly state, it "seems immediately understandable that local population and supply structures influence the demographic makeup of ECEC settings" (p. 37). To them it is far "less clear to what extent" other levels (Hogrebe, Pomykaj et al., 2021, p. 37) are involved. Furthermore, in 2020 the National Education Report stated that too little is known about the effects provision plurality in Germany actually has on the structural, organisational and conceptual configuration of ECEC (Autorengruppe Bildungsberichterstattung, 2020, p. 87), at the same time stating, that providing organisations and their strategies regarding enrolment and parent fee regulation are strongly suspected to "possibly have segregating effects" (ibid.).

While there is not much research to be found on segregation in ECEC in Germany in general, the existing body of research on segregation in the educational system sets one focus on parents selecting educational institutions for their children. Focusing on parents and their role in segregation consistently leads to questions of the choices they make for their children´s education (Ernst, 2018; Hogrebe, 2016a; Mierendorff, 2021). Segregation researched from that perspective is viewed as resulting from parents´ desire for distinction (Ernst, 2018; Hogrebe, Mierendorff et al., 2021; Lobato, 2021; Ramos-Lobato & Gross, 2019). However, shedding light on parental choice only has been critiqued as far from sufficient, too (Vandenbroeck, 2015b, p. 173). Because: while parents indeed do select an institution (or more institutions), after all it is the institution offering the conduct of contract to families. Institutions, hence, select from the total number of families who would like their child to attend the service, those children that are taken in. So, not only parental choice but 'institutional choice', too, is rightly suspected to cause segregation (see above).

Segregation research in ECEC therefore needs to focus on structures, conditions and practices across the ECEC system makeup levels that allow for ECEC institutions to sort, choose and select children according to their ethnic, religious, social (and other possible) characteristics. While it has been stated that it is well documented that (Vandenbroeck, 2015a) "priority criteria as well as enrolment procedures might unwittingly create thresholds that discriminate against poor and migrant families" (p.107), so far not much research has been undertaken to underpin that.

The insights and results to be shared here were gathered in a research project that set out to start filling this gap. Its title is "Preschool provision and segregation. A quantitative-qualitative study on the investigation of social and ethnic segregation in centre-based child care"[4] and it was launched in January 2019. It produces knowledge about the interrelatedness of the highly pluralistic provider structure in Germany with social and ethnic segregation. This is done in two indepentently operating subprojects, one taking a macro perspective and using a structural analysis approach to look at provider specific segregation patterns. Project titled "ECEC provider specific segregation patterns in Germany" (SET:ID)[5] uses nationally representative data from the National Educational Panel Study (NEPS) and the Socio-Economic Panel Study (SOEP). The subproject titled "Provider specific organisation cultures and practices"[6] has generated qualitative data in conducting in-depth-interviews and gathering documents. While generally working independently, researchers from both subprojects collaborated, e.g. discussing each others research results, posing questions, presenting papers together etc. This article presents results from research undertaken in subproject SET:OHA only, taking into account that in collaborative research projects findings accrue in collaboration and are hence stipulated by many conversations, fruitful discussions and critique with

[4] In German: "Segregation und Trägerschaft. Eine quantitativ-qualitative Studie zur Untersuchung von sozialer und ethnischer Entmischung in Kitas. SET.

[5] In German: "Segregation und Trägerschaft: Trägerspezifische Segregtionsmuster in Deutschland. SET:ID"

[6] In German: "Segregtion und Trägerschaft: Organisationskulturen und Handlungspraktiken. SET:OHA"

colleagues from subproject SET:ID.

Method

Sub-project SET:OHA, the qualitative research part of the project SET, followed a general grounded theory approach in data gathering and analysis. In this section the issues of theoretical sensitivity and the theoretical sample/sampling will be addressed.

Sample and Data (gathering)

As mentioned, the research body is insufficient so far; but observed disparities between Western and Eastern agglomerations and rural regions in ECEC lead to the decision to conduct research in two regions accordingly: One situated in West-Germany, the other in East-Germany. Since both German states had very different ECEC systems it was the aim to make sure to potentially integrate persisting differences. Also, in each region one major city and one rural municipality were selected, taking into account that demand and supply of child care capacities differ in areas with dense population (cities) and rural areas. In each of the four selected municipalities – West/rural, West/city, East/rural, East/city - interviews were conducted with participants from three different groups of actors involved in ECEC distribution: (1) municipality´s staff assigned to/ responsible for child care organisation and planning, (2) ECEC providers and (3) managers of child care centres. The sample consists of 30 interviews in total (six interviews with staff on municipal level, eight interviews with provider managers and 16 interviews with centre managers). In addition, five interviews with different stakeholders in the municipalities were included. A general interview guide was applied, making sure that the same areas of information were part of the interviews and the focus in each interview was kept on child care distribution and enrolment procedures. All interviews were semi-structured in-depth interviews (Scanlan, 2020) with the exception of four focus group interviews: Interestingly, in all four municipalities the responsible authority the researcher contacted preferred group interviews over individual interviews and strongly suggested to include responsible staff instead of interviewing only the head of department. This resulted in focus group interviews with numbers of participants ranging from two to six interviewees. Accepting this meant accepting a free flowing discussion between participants, only moderated to some extent by the interviewer(s) (Morgan, 1997) and it proved fruitful. Due to the nationwide lock down and strict visitor regulations in child care centres in 2020 and 2021 because of the Covid 19-pandemic most interviews had to be conducted as telephone interviews. Interviews lasted between 35 and 120 minutes; they were recorded, transcribed and anonymized. When reporting results the author is in addition paying attention to securing interviewees` anonymity. This is especially crucial taking into account that some German regions as well as providers are very distinctive according to their legal structures and conditions.

In addition to interviews data gathering included the collection of institutional and organisational documents. Those documents comprised for example brochures and information websites published by the municipalities in the sample and articles in newspapers about child care distribution in the municipalities. Also, brochures, documents, forms and lists that were subject of discussion in the interviews were collected.

Theoretical Sensitivity

Unsurprisingly and in line with Corbin and Strauss (Corbin & Strauss, 2015) theoretical sensitivity became and remained a major issue in research. - The author/ researcher is experienced in the field of ECEC, having studied in a European Masters course on ECE as well as worked as a child care centre consultant, teacher in vocational training and lecturer in advanced training courses for child care staff. It was therefore necessary to become aware of one´s own theoretical knowledge about the research field in order acknowledge it as well as suspend it at times - in order not to force theory on data (Corbin & Strauss, 2015; Kelle, 2005)

What will be presented in this article as the "ECEC distribution triangle" in particular is a result of taking theoretical sensitivity (Corbin & Strauss, 2015) seriously. – The schema emerged early in the research process, resulting from the necessity to pin point previous theoretical knowledge and it evolved while

analysing data. Later in the research progress it continuously proved to "help see relevant data and abstract significant categories from (...) scrutiny of the data" (Glaser & Strauss, 1976). Also, it helped the researcher to avoid drowning in data (Kelle, 2005), stay focused. The schema not only fostered a better understanding of the positions of actors involved in child care distribution processes in Germany. It also facilitated and stimulated questions that were posed during the data gathering process, but at the same time fostered the analysing and data coding processes by making possible to map arguments of interviewees and data according to the general outline of the triangle. In that sense, it was one of the first results as well as a precondition for findings) presented in this article.

Data Analysis

In data analysis coding and sorting methods were applied following the goal of breaking up and describing the data (Corbin & Strauss, 1990). Revising the data gathered (documents only at first, transcripts of interviews later in the research process) time and time again, taking notes about particular remarks and observations (Bryman, 2001) slowly a coding system emerged and developed. Coding, memoing helped posing the general question "what is going on here?" and kept the researchers permanent dialogue with the field in general and her data in particular alive. Sticking to a rather free coding practice (which did not necessarily rely on coding every line) data was abstracted into categories, making intertextual analysis possible. This, in effect, made it possible to flesh out commonalities and isolated events and therefore made it possible to group data and build a first theoretical framework. What will presented here as the 'enrolment tryptich' stems from data analysis applying the general grounded theory approach. Memoing, coding and intertextual analysis was facilitated by the software "F4 analyse".

Findings

ECEC Provision in Germany

ECEC is an integral part of Germany´s child and youth welfare system. It is – despite extensive discussions about necessary reforms not part of the educational system (Franke-Meyer, 2016). In the following section a detailed insight will be given – based on literature and in parts on own calculations based on public statistics.

The Universal Right to Child Care

ECEC is not compulsory. Yet, in September 2021 nine out of ten children aged 3 to 6 years and 34,4% younger than three attended child care (Statistisches Bundesamt, 2021). With the introduction of legal entitlement to child care Germany follows a universal approach to ECEC (Scholz et al., 2019). Children´s right to child care is regulated in book VIII of the social welfare code, §24 underpinning entitlement for every child from their[7] 1rst birthday onwards. It grants access to ECEC, legally provided for by the body responsible for youth welfare in the municipality. The right is universal in that sense, that it applies to every child fulfilling the only condition of having turned one.

The Child Care Market: Providers

In total 3.8 million children attended 58500 ECEC services[8]. in Germany (Statistisches Bundesamt, 2021) in 2021. All these institutions are under patronage of a legal body, be it a registered association, a church or religious community, a non-profit organisation, a for-profit limited organisation, a municipality or an owner-operated municipal enterprise. Those legal bodies are in German called "Träger" and in youth welfare they bear responsibility for planning, funding, providing, ideally promoting and conceptually developing social work in youth welfare (Bieker, 2011; Merchel, 2018). There are three types of ECEC providers: (1) public providers, (2) private non-profit providers and (3) private for-profit providers. To

[7] Throughout this article I will use the gender neutral singular pronoun "they" (them, their) when referring to individuals whose identified pronouns are not known or when the gender of a generic or hypothetical person is irrelevant within the context. I will do so according to guidelines for inclusive and respectful language given by the American Psychological Association APA (2019, 2020).

[8] Those could be supplying ECEC only for children younger than 3 years – Kinderkrippe (creche), institutions taking in children aged 3 until school entry – Kindergarten or day care centres (Kindertagesstätten) which take in children from birth until school entry. Furthermore, there are child care centres that take in children under three until school entry and beyond for after-school-care.

become a private non-profit provider in ECEC legal bodies have to undergo examination processes, usually carried out by the state youth welfare office. Approved providers become part of the ECEC system in the municipality, including public funding etc. (see also: Olk, 2018). The three types of providers share the ECEC market which has therefore been referred to as a mixed economy (Hogrebe, 2016b).

By March, 1rst in 2022 the share of organisations engaged in ECEC working for-profit is low, specified with 1663 institutions across Germany (Statista, 2022a). - In contrast, almost two thirds (or 37 543) of ECEC institutions are operated by private, non-profit providers (Statista, 2022a, 2022b). Public providers take a big share of one third (or 19 294) in total (Statista, 2022a). Providers vary widely, e.g., regarding the number of services they provide as well as regarding their standing in the welfare system: Some providers operate child care services only, some operate a multi-faceted portfolio of youth and welfare services (e.g., stationary care, educational consultancy etc.). Some are operating one or two services in a small area, others 'spread' widely across one municipality or even municipal borders, operating a multitude of services. Some providers have existed for decades and have run ECEC services for a very long time, other providers have just been approved.

Funding, Governance, Responsibilities: The "Multi-Level Structure"

"Funding mechanisms are rather complex and characterised by large regional differences" in Germany (Scholz et al., 2019) due to an "interdependent multi-level structure" (ibid.). - Regarding governance there are four levels in the ECEC system: (1) the federal level, (2) the state level, (3) the local/municipal level and (4) the provider level. All four levels of governance have different and differing responsibilities and competencies within the system (see Table 1). Regarding funding, all four levels share the responsibility – in differing and different amounts plus the child´s parents share the responsibility for funding child care (parental fees). According to calculations from 2018 the greatest share of ECEC funding (51,3%) in Germany lies with the municipalities/, followed by a funding share of 28,6 % by the state (Scholz et al., 2019). A share of 19,6% in total is mutually paid for by parents' fees and the providers (ibid.). The federal level´s quota is as low as 0,5% (ibid.)

Responsibilities for child care provision in Germany are shared across a multi-level system based on the general federal organisation of German welfare (Fuchs-Rechlin & Bergmann, 2014; Scholz et al., 2019). Regarding ECEC provision governance, there are the federal level, state level and municipal level, each bearing particular legislative as well as legal and administrative responsibilities, as comprised in Table 1, below. The fourth level in the multi-level system, the provider organisation level, operates child care services according to standards formulated by superordinate levels but also sets standards for the service delivered in its centres. Provider organisations are responsible for the general organisation, administration and management necessary for the actual child care service. The latter, then, is the fifth level: the level of pedagogical practice, the level of service delivery and day-to-day-routines. However, centre managers´ responsibilities are not to be underestimated: The provider level can assign centre managers with tasks such as developing a pedagogical concept for the centre and staff roster issues etc. Also, crucial issues like personnel recruitment and service addressee recruitment and responsibility for enrolment procedures can be delegated downward to the centre level.

Table 1. Actors in German ECEC: responsibilities, competencies, tasks(Scholz et al., 2019, p. 46, extensively augmented by the author)

Level	**Responsibilities, competencies, tasks**
Federal government level (Federal government: Bund)	Responsible for guidelines specified in federal law : (Social Code Book VIII; Child and Youth Services Act as the legislative framework, specifying e.g., the entitlement to child care, standards etc.) Stimulatory competence: programmes and initiatives Funding only in the form of project funding
State government level (State government: 16 Bundesländer)	Regulatory competence: ECEC legal framework regarding service provision in each of the 16 states individually (state law)

	Regulatory competence comprising: setting service provision standards, licensing provider organisations (Träger) as well as individual child care institutions, setting and examining/evaluating provision standards, development and implementation of curricula, staff qualifications
	Funding: targeted funding as investment programmes, federal programmes, tax reduction
Municipal government level (ca. 11 000 municipalities & districts)	Planning, organising of ECEC service
	Ensuring sufficient provision in the municipality/district according to entitlement to ECEC for each child (in case the local levels fail to ensure sufficient provision: compensation of parents´ loss of earnings)
	Funding: municipalities decide about the finance volume according to their priorities as well as their overall budget/indebtness (Besides, municipalities can take on the role of ECEC provider/public provider, too.)
Provider organisation level (Approved legal bodies assigned with the task to deliver provide)	Service provision according to standards = service operation
	Participation in ECEC planning/organisation in the municipality/district (represented on local youth welfare boards)
	Co-funding (in 12 of the 16 states providers contribute financially to the service they are providing for, ratios differ widely)
	Professional management of child care services, including contracting staff, general management of facilities, contracting service users, personnel management, management of funding issues such as regulations regarding parents´ fees etc.)
Service centre level	Service delivery according to general (federal, state, municipal/district) - and the provider organisation´s standards, including
	Actual service delivery: education and care practice with children and their families service management and organisation (e.g., staff roster issues, staff meetings, management of contact to potential addressees and potentially: management of recruitment and familiarisation of incoming children etc.)

Diversity/Plurality[9] & Subsidiarity: Two Principles Shaping Child Care Provision

Rooted in the long corporatist welfare history, there are two interwoven principles in place that shape child care provision: the so-called principle of diversity for one and also the principle of subsidiarity. Many of the German ECE system´s characteristics are owed to them.

The principle of diversity refers to the concept of parents´ choice: Social Code Book VIII (Section 5) guarantees addressees of youth welfare choice in service as well as in pedagogical approaches in place in the services in order to make sure the service meets their and their child´s needs and preferences. Provision plurality as such is also guaranteed in Social Code Book VIII (Section 3). Specifically, in youth welfare – and accordingly in child care - those providers are to be "favoured, which allow addressees of their services a high degree of influence" - (Olk, 2018). In principle, private providers are believed to act in line with what their addressees want (or need) and because of that they are trusted to supply the best possible, locally confectioned service. For doing so providers are granted the remarkable high degree of autonomy. Taking into account that administrative regulations, standards and concepts on governance levels have to be transferred into sufficient supply and practice on service level, the role of providers in the ECEC system is crucial: They implement administrative regulations existing at federal, state and municipal level; they are the ones to 'translate' legal regulations into actual practice.

They, also, enjoy a remarkably high degree of autonomy in molding ECEC, which partly is owed to the principle of plurality but besides that, to subsidiarity. Subsidiarity is fundamentally woven into the system; it is the "principle that a central authority should have a subsidiary function, performing only those tasks which cannot be performed at a more local level" (Oxford English Dictionary, n.d). Hence, municipalities only are to operate services only, if no other providers are willing to do so. When there are approved organisations offering provision, they should be assigned the task. So, despite substantially

[9] In German: Trägerpluralität. Authors translate it either as 'principle of diversity' or 'principle of plurality'. Both terms will be used synonymously in this article.

funding provision, due to the principle of subsidiarity, municipalities are not substantially in charge or control of the actual shape of provision.

Both principles promote a remarkable diversity. The sheer unnumerable quantity of different providers in the field acting to a high degree autonomously determining most aspects of practice naturally results in a huge variety of ECEC practice, regarding e.g., service centres´ values and religious/philosophical/political orientation, but also in opening hours and holiday closing times, pedagogical approaches and concepts and parents´ fees and many practical aspects more.

Parental choice as well as institutional choice are reflected in, owed to and backed by the two interwoven principles of welfare provision diversity and provider autonomy. When targeting 'institutional choice' in researching segregation in ECEC, the issue of ECEC distribution and capacity allocation in general and enrolment procedures in particular are to be looked at as part of the practice diverse ECEC providers mold autonomously as well as from a general system make-up perspective. In the following section the general distribution principles are comprised in the schema 'ECEC distribution triangle'.

The "ECEC Distribution Triangle"

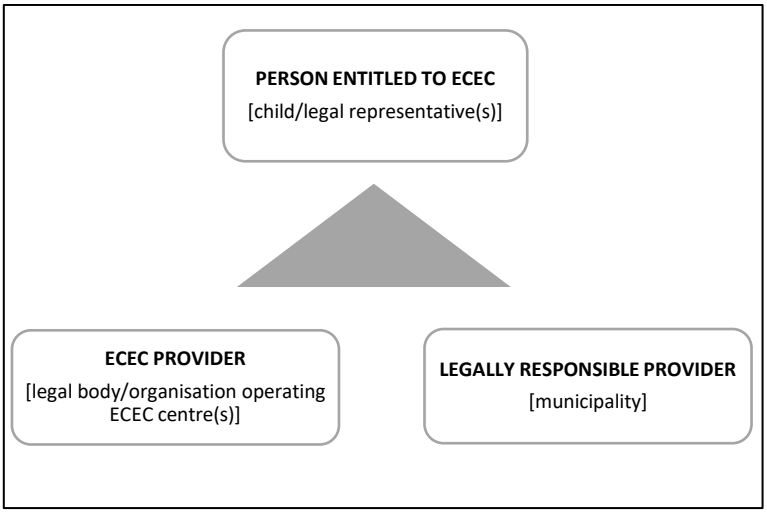

Figure 1: ECEC distribution triangle - actors

In Germany welfare services` distribution is organised as an interplay between three actors: the person entitled to a service, the legally responsible provider and the service providing organisation. This triangular interrelatedness is commonly referred to as the 'welfare triangle'. In the sphere of social legislation it illustrates the legal relations between actors involved in provision, production, regulation, funding and use of social -, health, and other right based services. In ECEC, figure 1 illustrates, the distribution of the service: the triangle includes the (potential) user (addressee) of the service (the entitled child), the legally responsible provider for ECEC (the municipality) and the ECEC provider. Those three actors are interconnected by different and manyfold relations.

Person Entitled to Child Care, Legal Provider, Service Provider

The person entitled to child care, addressee and potential user of ECEC service is the child. Since 2013 every child aged one year or older has the right to child care (see above). Because a child, though, is not in possession of neither the legal right nor capacity and ability to enrol or sign a contract. It is therefore legally represented by their parents who can claim the child´s right.

While legal entitlement to ECEC is granted by federal law and juridically specified on federal state level, implementation of the legal claim is assigned to the administrative level of a regional authority. That means that the municipality is the legally responsible provider of ECEC. Municipalities have to ensure, plan for and organise sufficient supply of ECEC in the region. Also, when municipalities lack sufficient

supply and fail to provide a child with an adequate child care spot, the child´s legal representatives[10] are can file a distribution is law suit against the legally responsible provider: if, due to not returning to an employment because of the lack of ECEC, they can claim compensation of their loss of earnings.

ECEC provider by definition is any legal organisation, certified for- and assigned with the task of operating services providing early childhood education and care. As mentioned above providers on the ECEC market in Germany are either private non-profit, public or private for-profit organisations

The Relations Between Child, Child Care Provider And Legally Responsible Provider: A Bermuda Triangle?

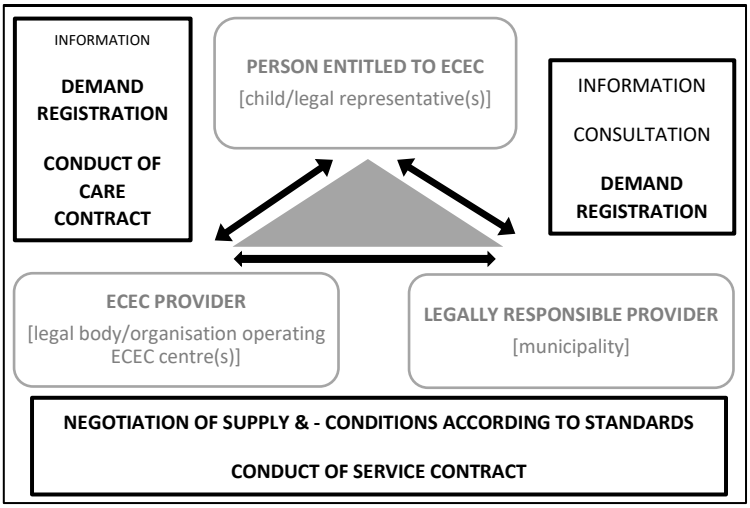

Figure 2: ECEC distribution triangle - relations (source: own)

The (legal) relations between actors in this triangle are – in particular for parents – rather confusing and often referred to as 'rather opaque'. Some authors pin point that; Kunkel even compared the welfare triangle with the proverbial Bermuda Triangle, suggesting it was possible to get lost in it (Kunkel, 2008).

In particular for parents of a child entitled to child care who wish to use ECEC services, it might appear opaque as to whom to reach out to: the legally responsible provider or an ECEC provider or one or more child care centres?

ECEC Provider – Legally Responsible Provider

The municipality has to ensure a sufficient ECEC system in the region. Calculations regarding birth rates, rates of use, ECEC supply capacity and their forecasted developments youth welfare planning is undertaken on a yearly basis. Plans include the development of ECEC capacities. Based on youth welfare planning municipalities conduct service contracts with approved ECEC providers; those contracts comprise issues such as ECEC aim and quality of the service and financial compensation for the service. ECEC providers supply ECEC service according to the covenant – regarding capacity as well as according to quality standards etc. Usually, the covenants entail agreements about regular reports of numbers and names of enrolled children; the latter is the basis for financial compensation proceedings from the municipality.

Legally Responsible Provider – Legal Representatives

Parents who wish to use ECEC service for their child have to register their demand first and foremost with the legally responsible provider. This is the necessary legal step in order to ensure the child´s formal right can be implemented and the child can – so to speak – enter the ECEC system at all. The legally responsible provider therefore has to inform parents (sufficiently) about ECEC in the region. Should parents – on their own - not be able to find a child care centre they wish their child to attend, the

[10] Most commonly the legal representatives of a child are their legal guardians who most commonly are referred to as parents. All three terms are used synonymously in the following.

municipality is to assist them. Should parents after all not be successful in finding a service that would enrol their child and, hence, are not offered an ECEC spot for their child, parents can file a lawsuit.

Legal Representatives – ECEC Provider

Parents in search for ECEC can approach service centres in their region, making contact, gathering information that will help to select a service centre supplying a service meeting their family´s needs. Most service centres and/or ECEC providers document prospective users' information; therefore, parents register their demand with the centre, handing in a registration form made available by the service provider. Once parents succeeded in finding an ECEC centre suitable to their child´s and the family´s needs and the desired service centre offers them an ECEC spot, enrolment procedures will be finalised by conducting a service contract with the legal body operating the service centre. The contracting parties therein agree on the admission date, rights and obligations of the contracting parties and the quality of the particular service provided for by the centre.

Allowing for Choice and Selection: ECEC Allocation Principles

Ensuring sufficient ECEC provision in the region is assigned to the municipality. The latter organises and plans a system corresponding with the region´s residents` needs regarding capacity and quality. Whereas the municipality alone has to make sure that there are enough child care spots available for every child, the allocation of child care spots is decentrally organised and in principle and legally 'out of municipality´s hand'. This is reasonable and easily understandable: legally, the municipality is not in a position to decide who an ECEC provider conducts a service contract with. Since a care contract is conducted between parents and an ECEC provider, both parties are free to decide whether or not they agree on the contractual object and resulting rights and obligations. Both potential parties – parents as well as ECEC providers - are, as a matter of principle, free to choose each other. Clearly, choice and selection are principles of ECEC allocation in Germany. A funcion of the latter, it is in general sole and autonomous responsibility of the ECEC providers to make up allocation procedures: from designing forms and/or lists for demand registration, management processes regarding prospective service users, and determining key dates through to shaping processes for enrolment decision making and contract conduct. Needless to say: all those procedures have to meet legal standards and, furthermore: design and conduct of those procedures desirably have to be in accordance with the common sense of justice.

Discussion: ECEC Allocation And Enrolment Procedures-A Tryptich

In the following three sections research findings regarding child care allocation/enrolment will be presented and discussed. A picture of enrolment procedures and allocation proceedings will be drawn, which organises research results and their discussion as condensed and focused as possible in three segments: Research results will be presented and discussed focusing on the three relevant actor levels – municipality, provider, centre management. As a result readers are presented with a research result tryptich.

Enrolment Tryptich, Part 1: Steering (almost) Impossible? – The Municipal Level

Interviews with municipal staff in general revealed tensions between the legal responsibility for child care provision and providers´ autonomy. As interviews were conducted in 2020 and 2021 urgent lawsuits regarding child care provision were still an issue. - After the universal entitlement to child care was enforced in August 2013 some municipalities faced a flood of lawsuits filed. In particular big cities had to deal with being charged (Collins, 2017; Deutschlandfunk, 2013; Gröger, 2014; Staeubert, 2018) by parents who claimed the legal provider of child care had not supplied them with adequate child care spots in time. As a result of those lawsuits municipalities in Germany were sentenced to compensate parents´ loss of earnings (Kaufmann, 2016); high debits on fiscal accounts then, were to be managed. For municipalities child care distribution can indeed, be a most critical issue; one municipality´s staff reported tensions and

tasks resulting from many cases of parents charging the municipality; the other three municipalities´ staff referred to the possibility of being charged.

Ensuring "Sufficient" Provision and Efficient Capacity Allocation

Basically, since the implementation of the right to child care, for municipalities the task of ensuring sufficient provision partly has become a matter of preventing lawsuits. Municipalities, hence, not only substantially promote non-profit and for-profit providers in their expansion efforts. Besides, many municipalities expanded the numbers of centres under their own management in order to make child care demand and child care supply meet. Furthermore, local authorities identified the need to ensure that already existing child care capacities are managed more efficiently. So, vacant child care spots were to be allocated as soon as possible which led municipalities across Germany to developing and implementing software. Most municipalities have therefore launched websites, so-called child care portals, in recent years (Nebe, 2021, 2022). For municipalities those portals are a tool for bringing together parents and child care centres, and moreover a tool for keeping track of the demand for child care and of free capacities. In general, the need to map the child care capacity occupation status across the municipality and to keep this 'map' up-to-date, was emphasized as an important tool for better and more efficient administration and planning (Nebe, 2022). So, by making parents use the portal for mandatory demand registration with the legally responsible provider (indicating name, birth date, occupation address of their child and the date they wish to start using ECE) and by assigning ECEC providers not only to keep their centres´ profiles on the website up-to-date but more importantly, to report vacant spots in the service, municipalities can accomplish a good overview over demand and supply. Mostly, portals include the possibility for parents to register their priorities for certain service centres; if they use this function their demand is forwarded to the centres. For municipalities it is most important, as was stated by interviewees, to gain a good overview over supply and demand because that is the essential basis for the endeavour of ensuring sufficient ECEC provision.

(No) Control Over Capacity Allocation? – Steering Impossible?

However, relying on software or not, for municipalities any direct influence on the actual allocation of child care capacities is not at hand, as interviewees stated. Interviews revealed that local authorities partly seem to struggle with providers´ autonomy regarding capacity allocation as it is referred to as significantly limiting the municipalities´ steering opportunities. While this is referred to as a given, steering ideas seem to be linked with somewhat directly taking action So, interviewees at municipal level generally linked their opportunities for steering to the degree of being able to dispose child care capacities according to the responsible providers´ agenda or need. The role of public provision is especially intriguing, as the municipality in its double-role as legal provider of ECEC *and* provider operating services seems to entail options to 'convince' centre managers to take in children when particularly needed - from the 'municipality´s-as-legal-provider'-perspective. It was expressed that while the public provider of course was granted provider autonomy and hence were to decide freely, and yet, - as one interviewee said public ECEC centres "belong to us" and hence, could be made liable to a certain extent.

Nevertheless, regarding group composition in certain child care centres, municipal staff made the point that that was an issue they were not at all in control of. One municipality´s (big city/West) manager for child care quality for example, pointed out that she knew of two centres operated by the same provider, both centres homogenous in clientele. According to the interviewee one centre was almost exclusively attended by children from families with high social status, the other one by children coming from families with very low social status and migrant background. The interviewee said that from her perspective this was of course undesirable and yet, it was something she (respectively the municipality) could not control or influence due to the child care provider´s autonomy. Municipalities' staff, however, expressed different perceptions of the relation between providers/child care centres and the municipality regarding ECEC capacity allocation and, in particular of options to influence child care spot allocation processes. Whereas in one municipality staff declined any possibility of influencing providers in their enrolment decisions, staff in another municipality claimed to "at least have a say" in centre composition. The latter emphasizing

that when staff found that the composition of clientele was disadvantageous/too homogenous they would contact centre managers and/or provider managers in order to stipulate amendments enrolment procedures and decisions.

In general, municipalities´ staff´s ideas regarding steering of ECEC capacity allocation seemed restricted to the potential of actually enrolling or influencing enrolment of children in certain service centres, directly determining clientele composition. The tenor of all six interviews was ambiguous and rather negatively toned regarding municipalities` position in ECEC capacity allocation. Interviewees reviewed the municipalities´ position rather weak and discussed it critically. Particularly when they reported lawsuits filed or impended by parents, the 'municipality´s weakness' issue surfaced: Being made legally responsible for supplying sufficient ECEC, then, seems to be looked upon as contradictious to not having control over capacity allocation.

Enrolment Tryptich, Part 2: "We Are Not the Ones to Favour Anyone; We Mustn't Do That and We Don't Do That!" – The Provider Level

In this section some of the facets of child care allocation will be presented as they emerged in particular from interviews with service provider managers and supplement document analysis. Data reveals on the one hand, that child care allocation procedures are (only) one of many issues providers have to tackle – and especially among the search for staff (there is an overall lack in workforce in the field in Germany), funding and contract issues it is referred to as 'not the most urgent one'. It showed that, to providers, the enrolment procedures are - perhaps predominantly - an instrument for taking good care of capacity utilisation leading to balanced finances. Furthermore, the variety of enrolment procedures reflects the plurality of providers. – In general, every provider and sometimes even each centre operated by the same provider seems to implement their very own procedures. To some provider managers enrolment procedures were an issue important which they willingly discussed with the researcher and to some it seemed an issue unnecessary to discuss at all. Some facets of enrolment practice will be carved out focusing on enrolling children under conditions of excess demand, responsibility for the process, the 'paper work' and personal encounters involved and lastly, idea of group composition.

Enrolling Children Under Conditions of Excess Demand

Overall, providers emphasised that at the moment any enrolment still is done under conditions of excess demand. Thus, providers stated that they usually have (a lot more) registered children wishing to be enrolled than they have actual spots to distribute. Understandably, since the balance of finances is at the forefront of providers´ attention and the latter is linked to the degree of capacity utilisation, providers find themselves in a rather comfortable situation: they know, that technically speaking competition lies in the field of consumers, not of the suppliers. Enrolment for providers, from that point of view appears a rather easy task.

Responsibility Spheres

Clearly, ECEC providers in principle uphold their autonomy; interviewees insisted that the allocation of ECEC spots was an issue of their concern only, rejecting the possibility of the municipality interfering with enrolment decisions. At the same time, though, providers mentioned that regarding municipalities´ pressing cases (e.g., parents claiming urgent demand for child care) collaborative relations between municipality and providers made way for making capacities ad hoc accessible, if needed - and if there were vacant spots. So, for one responsibility for ECEC allocation was certainly claimed by providers; nevertheless, granting municipalities´ requests as gestures of goodwill.

Besides that, data revealed a great variety to whether taking responsibility for providers was a matter of actually practically getting involved in ECEC allocation or whether responsibility was delegated down to centre manage level: While some providers leave enrolment entirely up to the centre managers, others take it into their sphere e.g., by structuring enrolment procedures, suggesting processes, bindingly implementing the use of forms, lists or enrolment management software. None of the providers in our sample tackled the task of enrolling children in their centres centrally or without at least consulting the

centre managers. Delegating responsibility for enrolment procedures and to the sphere of responsibility of centre managers seems most common. Data also reveals that providers express great trust in the centre management's capability to best ensure that enrolment procedures go smoothly with the effect of balanced capacity utilisation and also of smooth routines regarding the organisation of familiarisation phases for incoming children etc. All the same, some providers expressed it was their task to make sure that enrolment procedures do not get too time-consuming and hence it was up to them to work out effective and efficient procedures. One provider for example emphasized it had been necessary to implement new application forms and enrolment processes in the centres in order to reduce the vast amount of time centre managers spent organising and managing enrolment processes. Also, the same provider claimed, it was indispensable to make the whole enrolment process transparent for parents, making sure that even under conditions of excess demand, all parents – even those whose children could not be taken in at a certain date – were content with the process as such. He said, he made sure that descriptions of the enrolment procedures, forms and processings were made public by centre managers as well as on the provider´s website. Before making the process 'less tenuous', as he called it, it had sometimes happened that long waiting lists and the way these were managed, became issues of discussion among parents and even reason for complaint. (Some parents felt they had registered their demand before someone else who, however, was enrolled before them.)

Demand Registration: Personal Contact and/or Paper Work

Whether enrolment procedure responsibility is actually and practically taken on by the provider level or whether it lies with the centre managers – enrolment as such is characterised by a variety of practices. Including paper work as well as personal contact between parents and a certain centre´s or the provider`s staff. Regarding personal contact as part of enrolment practices most personal encounters happen between centre managers and parents. It appears that the smaller the provider (that is: the lesser centres it operates) the more probable it is that parents approach a provider manager in order to register their demand for child care. But interviewees reported that usually service staff is approached first. If parents do make contact to the provider level first, apparently, they will be informed about the different centres the provider operates and asked to make contact to centre managers.

Also, paper work is included in the enrolment procedures: It comprises notes, forms and lists of different kinds, serving different purposes. Those purposes are on the one hand the registration of the parents' demand and wish for institutional care for their child in the centre and information exchange between both parties on the other hand. The latter may comprise information brochures as well as websites the provider makes available for parents. Those contain information about child care in general, about certain centres, their pedagogical approaches, their facilities and also, essential contact dates, such as telephone numbers, email addresses etc. Websites operated by providers commonly also supply information about how to register ECEC demand, which mostly is also presented either online or via a downloadable document.

Those documents are indeed rather interesting and present a fruitful source for further research; here only few issues shall be mentioned: ECEC providers present forms to be used by parents in order to express their wish for child care either in one particular centre or in any centre operated by the provider. Furthermore, what terms providers use to title those documents varies widely and comprise "request for a child care spot with provider […]"[11], "registration notification for a child care spot in centre […] supplied for by provider […]"[12] or "application for admission to child care "[13] and others. Those terms mentioned are just three examples out of a far greater variety to be found across Germany. While this will not be discussed here, it proves fruitful to analyse those documents because they seem to represent different approaches to child care distribution: It can be assumed that it is far from trivial whether providers title those forms "application" or "demand registration", "registration notification" or "request" because the

[11] German original title: Antrag auf einen Platz in einer Kindertageseinrichtung bei Träger […]

[12] German original title: Voranmeldebogen für Kinderbetreuung in der Kindertagesstätte […] bei Träger […]

[13] German original title: Bewerbung um Aufnahme in Kindertagesbetreuung

title as well as the information gathered with those forms can be assumed to reflect providers´ understanding of (their role in) child care allocation. Regarding documents the information gathered varies widely, too. - Some providers only ask for essential information such as the child´s birth date, address and names of parents as well as the date parents wish to start using child care. Others ask for a lot more, rather personal, information, such as the sex of the child, the number, age and sex of the child´s siblings, the family´s language, parents´ civil status and their education, religious confession, profession and employment status and more. All things considered, documents involved in enrolment appear to be at least signed off - if not designed - by providers; they are designed to serve the purpose of managing the enrolment process. According to providers´ freedom to decide on general practice issues, congruously there seem to be various approaches towards content and design, leading to various documents in place in the municipalities. As concerns documents, neither the amount of information gathered nor the question of how information is processed is negotiated or standardized across providers and centres in municipalities. Centres operated by the same provider seem to tend to use the same documents and gather the same amount of information. As to differences between providers, the least to say is, that providers design their own documents. Generally speaking, providers with strong links to churches (such as individual parish or agencies church administration unions) commonly include specification of the family´s religion while public providers and others don´t. Apart from that there are no recognisable patterns regarding to which provider asks for which information.

At least one share of 'paper work' is to be done utilizing so-called child-care portals (Kita-Portale). As mentioned above, those are operated in many municipalities across Germany. Providers apparently are obliged to use the municipalities' portals; commonly this is agreed upon between providers and local authority as part of regular revisions of service contracts. So, mostly those portals have become part of the contracts between the legally responsible provider and the child care provider; municipalities intending to map child care options as well as to display and manage available child care capacities (see above). Despite being obliged to utilization of the portals, the extent to which provider level and centre level make use and promote those portals varies widely (for further detail see: (Nebe, 2022)). Our data indicates that the implementation of those portals encountered resistance by providers, because of the latter claiming having to make use of portals interfered with their autonomy.

A Question of Making Just(ifiable) Decisions

At the moment not much is known about if and how the information gathered in those forms informs the actual admission or enrolment process. Our data indicates that some information crucially and commonly informs enrolment decisions while other information is rather irrelevant in the process. However, what information about the child and the family leads to greater likelihood for parents to actually get a child care spot stays largely obscure. While at the core of discussion, the overall existence of 'criteria lists at the provider level cannot be confirmed on the basis of the sample. Only one – public - provider in the sample mentioned guiding enrolment decisions by implementing a criteria list (see below).

The provider managers interviewed were practically not very much involved in the actual decision-making processes regarding enrolment. Still, they critiqued the ranking of children: For providers it seemed crucial to emphasize that all children entitled to ECEC had the same right and chance to be enrolled; and thus, any discrimination – be it positive or negative – was to be prevented. The idea of favouring one family over another in general was rejected, stressing that it was any provider´s duty to be welcoming each and every child, whatever the family´s language, religion, social status etc. Ambiguity, though, showed on the one hand when provider managers talked about the idea of 'helping' those in need, stressing that centre managers should always be able to prioritise for example children whose parents were attending training courses (professional or language) or children of single parents or children with special pedagogical needs over other children.

'Picking' certain children and families for their services and hence, matching incoming children to the child care provider`s as well as centre´s concept or current clientele, was in principle condemned. At the same time, though, providers held it possible that some centre managers might actually pick and match

children to the centre. In particular, giving priority to children with siblings already attending the centre seemed reasonable and justifiable, as well as picking those children who for different reasons matched the existing group. For example, some providers second the idea of picking children according to their age or sex when the centre was organised in groups and a favoured group composition was to be balanced (e.g., resulting in just as many boys as girls in the group). Having said that, one provider strictly condemned picking children because of their sex, stating that the idea of composing groups of just as many girls as boys as obsolete. Th provider manager argued that centre managers should not at all intend to compose groups or centre clientele, relying on any information about the child or their family. The only viable information – from his point of view - was to be the date of birth and the date of demand registration, because, in his opinion, it was up to the pedagogical staff´s pedagogical competence and professional ability to deal with more or less randomly composed groups. From experience the provider manager emphasised that in case there were more girls to be enrolled centre managers should not intend to favour (and enrol) boys over girls but to find professional ways of dealing with a group of girls. Interestingly, one provider upheld the possibility to pick children. She said, she looked at enrolment as one way of shaping the work environment for pedagogical staff. So, in her opinion it was legit and plausible that centre managers should chose children and families in accordance with their ideas of ECEC as well as their knowledge about the pedagogical team´s professional skills.

Back Up and Guide Centre Managers' Decision Making

Against the background of short supply, providers – despite in principle rejecting the idea of favouring families over others, cherry picking children - vindicate prioritising and ranking as a viable way for centre managers to deal with excess demand. Apparently, good reasons respectively plausible justifications for enrolment decisions seem necessary. Providers talked about the need for centre managers to work towards decisions they can fully support. As mentioned before, in particular favouring families in need over other families seems a 'good' reason for prioritising them. Furthermore, it seems justifiable to prioritise employed parents who need to get back to their job over unemployed parents. Cherry picking, on the other hand, was stated as not justifiable.

Providers seem to 'work around' the need to intricately justify enrolment decisions for example by relying on key dates only: a number of providers have implemented registration and enrolment procedures which are claimed to only take into account the date of demand registration in combination with the child´s birth date as relevant information. Therefore, by implementing 'first come, first serve' manner-procedures seem to be deemed to lift the 'enrolment decision weight' off centre managers´ shoulders. At the same time, it objectifies decisions, making them rather easy and indisputable. Those enrolment decisions are considered just because they are – in principle – made without regard to person (child/family).

Enrolment Tryptich, Part 3: "It is A Challenge, This Whole Place Allocation Process" – The Centre Management Level

In this section some of the dimensions that characterise child care allocation practice will be presented as they emerged from analysing data regarding the centre management level. Data indicates: enrolment of new children/families and all the tasks involved seem to make up a big part of the centre managers' job. It appears common in the field of ECEC that responsibility for the actual enrolment processes is assigned to centre managers: According to the project´s data, centre managers tend to be the ones whom parents encounter for first centre contact, they are the ones who inform parents about enrolment proceedings in particular and about the centre in general, who manage, order and process registration forms and possibly continuously process wait lists, keeping an eye on the centres use of capacity. Because they are the ones addressed by parents registering their demand for child care, they also most probably are the ones to inform parents about if and when their child can be taken in – or not. Centre

managers, thus, are the ones finding themselves in positions having to justify enrolment decisions if necessary.

Demand Registration: Personal Contact and/or Paper Work

All in all, to the centre managers interviewed enrolment as such seemed a burden. All interviewees emphasised that in general the tasks linked to enrolment of children added up to a work load consuming a great share of their working hours. While most of them found it well worth the while, others stated they would not mind 'outsourcing' the task at all, if for example, any administrative work was in the provider´s sphere of responsibility. On the other hand, many centre managers in general seem to appreciate that being responsible for enrolment procedures also gives them the opportunity to get to know new families first. Also, centre managers emphasized that to them it was a crucial as well as rewarding task which could not possibly be tackled centrally by the provider but had to be taken care of in the centre. Some centres organise open-house-presentations regularly - as one manager stressed, in order to save time by informing many families at once. Other centre managers schedule one-on-one meetings with individual families, stressing that it was particularly good to get to know a family individually before they even handed in their registration. One 'was able to get a feeling' about the family and about what the family expects, one interviewee said.

Regarding registration forms, mostly forms provided for by providers seem to be in place. All the while some centre managers just put down names (of child and family), contact details, the child`s birth date as well as the requested date to start using child care. Some centre managers organise those dates digitally, using self-made tables, software provided for by the provider organisation or individually constructed files and some make use of ring binders, notebook and pen. Also, if the municipalities use an ECEC portal and this website included the possibility for parents to register their demand for ECEC spots in certain centres, this request is automatically forwarded to the centres. In those cases, centre managers (can) make use of this digital function and accept or reject requests, invite parents for one-on-one-meetings etc. If and how individual information about the child enters wait lists – if the latter exist at all - seems to vary widely, too. Some centre managers document each incoming registration in one file, others just file all the registration forms in a binder.

Just as interesting is, what information is targeted in those documents: Data indicates that a multitude (!) of information is potentially gathered. What information exactly is collected from parents ahead of the enrolment decision making varies widely (see section 'paper work'/provider level above); it may – among information such as name, birth date, occupation address of the child as well as name, birth date, address and telephone numbers of their legal guardians. Furthermore, the documents ask for information such as the preferred date to start service attendance and hours of care required per day. Besides, parents could be asked to specify information about the child´s sex, their siblings, the family`s language, nationality, their religious confession. Also, some of the documents ask for information about the parents´ education and employment status of parents etc. As mentioned before, there are no recognisable patterns as to what information is asked by what kind of provider or by which ECEC centre.

Processing Information about the Child and Their Family – Making Decisions

In general, the practical starting point of enrolment proceedings on the centre management´s side is the ascertainment of vacant child care spots. The actual opportunity to enrol new children occurs regularly when children enter school. So, how many children are about to leave the centre makes centre managers start working on enrolment ahead of that date. Furthermore, children might be leaving the centre due to the family moving house or any other reason.

When ECEC spots are (going to be) vacant, centre managers spring into action: then forms will be checked and information about the children will be processed. Taking into account, that – as interviewees put it – many child care spots can be 'given to sibling-children' (that is, families who already have a child attending the centre gain ECEC for their next child) and hence, calculatively many theoretically vacant spots are excluded from that, there will be vacant spots and management will have to decide whom to give

those to. Then, folders will be opened, registration forms or wait lists will be checked and more information about other children and their families will be proceeded. Rigid criteria or criteria lists don't seem to be in place. But instead, the information about different children will be weighed up against one another in situ, resulting in decisions about who will be offered a spot. As a result, the centre manager will have reduced the number of prospective users registered to a number of families who will be offered a spot. The centre manager, then, will get in touch with those families, asking, if they are still interested. Some might already have succeeded in conducting a service contract with another centres, but those still wanting their child to attend the centre in question will be invited to a one-on-one meeting to conduct the contract.

Enrolment procedures generally, seem to be based on principles rather than firm (or even rigid) systematically worked out decision-making-criteria. One of the few principles is the dictum to always enrol 'sibling children' first, another, to have an eye on the urgent need single parents or persons in training courses might have. And in addition, parents who need to return to their job after parental leave seem to be prioritised. Also, all providers in the sample said they would always try to 'make room' for 'social-work-case-children'. Furthermore, there is indication that church operated centres do prioritise parish members, but this does not seem to be generally the case. Priority, however, is given to children of company employees in company-operated centres – and the same sometimes is the case with priority regarding municipality employees in public ECEC centres and church (charity) employees in centres operated by church.

When processing information in order to guide enrolment decisions it seems that age as well as the sex were information quite commonly made relevant, too. Also, some centre managers stated they were trying to balance capacity utilisation well, which to some deciders meant that whether or not parents were entitled to all-day-ECEC because that was relevant regarding finances. This, though, does not seem to result in some deciders generally rejecting children entitled to only half-day ECEC but if balances got troublesome, this information could possibly be made relevant in the decision, too.

At large, research revealed that very different facts known about the child and the family are being weighed up against each other. Findings point to the application of prioritising procedures in the decision-making process. But those are mostly not systematically and consistently or rigidly applied. Enrolment procedures, from a general perspective, could best be considered 'in-situ-information-processing-and-balancing decision making' rather than 'criteria-based systematic decision making'. Data indicates that centre managers develop their own individual, yet, usual and common paths towards enrolment. Hence, in each service centre there seems to exist a somewhat common enrolment procedure. But even then, decisions can be made, leaving the beaten paths of decision making completely.

A Question of Making Just(ifiable) Decisions?

While data does not reveal how exactly and to what extent the decision-making process regarding enrolment of children includes *which* information about a child and their family, the centre managers seem to have a great interest in making decisions that are justifiable and acceptable – for themselves, team members, the provider and last but not least at all the parents. Rigid criteria lists seem to be rare; centre managers rather reject the idea of using those. Yet, there is information that is elevated to the status of decision criteria: Age and sex of the child is such information, for example. Both are relevant for those managers aiming at certain ideas of group composition – e.g., balanced quota of girls and boys, mixed age groups etc. So, including both characteristics of children into decision making seems justifiable according to the centre´s pedagogical conceptions. Furthermore, the registration date is justifiable firstly, because universal entitlement to ECEC grants every child whose legal representatives register demand ECEC; so, demand must be met by supply and no child should have to wait for ECEC. The interviews indicate that, the longer a family´s demand had been registered, potentially the more probable their admission became. Also, children of single parents, in particular single mothers were likely to be taken in prior to children living with both parents. This seems to be justifiable due to the idea that – if parenthood is not shared, one parent should be relieved from some work load regarding the upbringing of a child alone. Furthermore, children whose parents were studying, were in vocational training or were assigned to attend language or

further education courses were mentioned to be potentially prioritised. This is justifiable on the background of future family income prospects. Children whose siblings already attended child care in the centre are clearly ranked higher than other children; the reasoning behind that is given in the intent to help families organise their daily routines, in particular by helping keeping daily travel times low. Besides, from centre perspective the familiarisation process for children was mentioned to be easier if siblings already attend the day care centre. So, when information about siblings is elevated to the status of a decision criterion, it is justifiable, too. Also, the distance between the child's permanent residence and the child care centre was described as relevant and potentially decisive information: Children living closer to the centre were said to be prioritised, because for one, ECEC should promote neighbourhood networks and also, because parents who have to travel larger distances everyday must be expected to try and find ECEC for their child closer to their home – and hence, they would potentially leave the centre. The latter, then, from centre perspective would result in avoidable extra effort (having to enrol a new child).

Aside from that, apparently information about a family´s language or migrant back ground, the child´s physical handicaps, parents´ attitude towards the centre´s pedagogical concept or the provider´s profile was mentioned to potentially to lead to either enrolling or to not-enrolling children for the very reason. Justifications regarding the inclusion of such information as relevant were manifold, sometimes contradictory. For example, one manager stated that sometimes it was reasonable to reject a child when it was clear there were neither staff members nor children going to be able to speak the child´s and their family´s language. So, she said, in the best interest of the child, it was the best decision not to take that child in. Another manager, in contradiction, mentioned that she had in the past taken in a child because neither the child nor the family were able to speak German and she was certain that child and parents would be able to learn the language faster when using the child care service.

So, when applying an open information-weighing-decision-making process for enrolment in ECEC, as done by our interviewees and - as it seems - by many decision makers, the crucial point with weighing information in situ is that it is almost impossible to be objectified and to be made transparent. It is, in principle, left open as to how exactly information is being weighed. As the example showed: whether or not a child speaking another language than the majority of children and staff in the centre do is being enrolled depends on the deciders assessment of the current situation, regarding the child, the group of children already attending the centre, staff members´ pedagogical approaches and professional abilities, spatial and facility preconditions and also to a certain degree the provider organisations rationales.

Findings indicate, that enrolment decision making is a highly individual centre-based task. It is commonly routinely tackled by centre managers who, in general, do look upon enrolment as rather challenging: One centre manager summarised: "One really has difficulties to do a good job [here]. Yes, it is a challenge, this whole allocation process."

Conclusion: Do Legal Conditions and Administrative Structures Allow for Segregation in ECEC?

Germany has a complex and extensive system of right based, universal provision of ECEC which in general is designed to supply high quality ECEC for every child. Some authors and certainly most politicians have (had) high hopes for enhancing equality especially with regards to the implementation of universal access to ECEC. The entitlement to ECEC may at last "level the field" for all children (Cornelissen et al., 2018; Havnes & Mogstad, 2015), some emphasized. It turns out, though, there are still access barriers to be found (Klinkhammer & Erhard, 2018): While in principle all children equally enter the system (Groos et al., 2020; Klinkhammer & Riedel, 2018), those children who do enter are not equally distributed across services (Hogrebe, 2016a; Hogrebe, Mierendorff et al., 2021; Hogrebe, Pomykaj et al., 2021). Instead, substantial segregation shows. So, the field appears not as levelled as hoped for.

The question, this article pursued, is what practices, legal conditions and administrative structures make segregation possible. Light was shed on the overall legal and governmental make-up of the ECEC system in Germany, administrative structures resulting from relations between the three actors -

child/parents, ECEC provider and municipality. And, most notably, an empirically based, threefold picture of enrolment was presented.

Apparently, despite being legally responsible for ECEC, having to make sure every child entitled to ECEC is supplied with an ECEC spot and also despite taking the biggest share of funding, municipalities´ options for steering the distribution flow of children towards ECEC provision are more than limited. Most members of municipality staff rejected having any option to steer where children from different backgrounds are taken in. As could be shown by presenting the 'ECEC distribution triangle', this is due to administrative structures resulting from the common distribution principle of welfare in Germany. Municipalities are, indeed, neither more nor less than the authority promoting and ensuring sufficient provision in the region. Hence, providers as legal bodies conducting the care contracts with parents, are the ones in control of the question who is enrolled – and who is not enrolled.

At the same time, providers uphold their right to autonomy, including the right to select their service users. According to our data, providers tend to delegate the actual responsibility for enrolment down to centre managers, granting them latitude in framing procedures. Provider management levels do, in different degrees, supply centre managers with general guidance regarding enrolment procedures, papers, lists etc.

The picture of enrolment on centre level, then, is a most complex and variational one. Apparently, centre managers take the responsibility for user recruitment very seriously. Their scope for action regarding decision-making is big. The option to select prospective service users is fleshed out according to key dates and guidelines by the provider (if those exist). There apparently, are no standard enrolment procedures nor standards for criteria to include in enrolment decision-making processes. Instead, decision-making is fleshed out in consideration of parameters such as the child or family´s assumed need, the pedagogical staff´s competences, the existing clientele composition in the centre or in certain groups, personal and professional attitudes of team members and provider organisation, the centre´s facilities, etc. Enrolment decision-making routines are, above all, practices carrying an individual imprint – by the person carrying it out, the centre – its clientele, staff, pedagogical approach, history, neighbourhood etc. Enrolment, in that sense however, appears neither arbitrary nor should it therefore be looked upon as an incident of intentional and systematic discrimination or unilateral preference on the centre managers´ or providers´ side. Instead, it is a highly individualised procedure, due to the freedom to shape practice under given conditions and structures.

As was shown, legal conditions grant providers autonomy and latitude in molding provision. In combination with administrative structures that limit municipal options for steering – the make-up of the ECEC system lays the ground work for distribution flows potentially channelling children towards centres in ways that potentially result in homogenous clienteles in centres. In other words: legal conditions and administrative structures leave actors on the provider side (provider management and centre management) with the freedom to choose service users – and they, indeed, do use those options. Some providers as well as centre managers look at that choice as a duty (c.f. Ramos-Lobato & Gross, 2019), while others find it rewarding. Above all, we can see: legal conditions and administrative structures allow for different and heterogenous approaches to enrolment procedures – on provider, centre management and individual level. Interviewees are well aware of the potential segregating effect different enrolment procedures can have and yet, none of the interviewees tended to challenge procedures systematically addressing segregation.

When we keep in mind that providers shape practice they substantially determine the conditions that shape the working conditions for staff as well as the learning conditions for children (Peucker et al., 2017; Scholz et al., 2019), it might neither be strange that enrolment procedures are fleshed out so individually nor that providers and centre managers take advantage of the granted autonomy and freedom. It might appear, though, strange that neither of the actors involved in ECEC distribution tend to enrolment systematically so far. In the opening section I cited Musa Okwonga who said "It is a system that first strikes me as strange, and eventually as utterly unfair..." (Okwonga, 2021, p. 28). Concluding I would

like to ask: 'Is the child care distribution system unfair or is it strange, even?' – In light of the research presented the answer would have to be indecisively 'yes *and* no': Yes, legal structures and administrative structures indeed allow for practices that can result in segregated child care centres. But, no, the ECEC system in Germany is neither strange nor unfair as it is because it certainly does not compellingly shape enrolment practices leading to segregation at all. Furthermore, as to the decision-making process on the provider and centre management level, accountability of enrolment decisions is currently oriented on maintaining functioning child care centres. When in a position of having to select children, there is, indeed then, a possibility and probability of weighing characteristics of children and their family against one another. Desirable, then, seems composing a clientele that is 'manageable' for the staff and in general, promoting smooth operations and daily routines.

Following Frankenberg (2016) I would therefore state, that segregated ECEC at the moment "happens" more than it is intentionally fabricated by individual (centres or providers). And, by the same token, as diverse ECEC is not something that will just "happen" (Frankenberg, 2016, p. 21) but instead needs "efforts to create and sustain" (ibid.), some efforts need to be made. While segregation is in principle unintended and unwanted, enrolment practice does not account for de-segregation just yet. Hence, municipalities should join efforts with ECEC providers and centre managers in the endeavour to design child care allocation procedures that promotes equal distribution and inclusive ECEC in the territorial community. Due to legal conditions and administrative structures, only in a joint and voluntary effort providers and municipalities could negotiate and attain binding enrolment principles across all ECEC services in the community. Having said that, while steering, understood as controlling distribution flows, is not at stake for the municipality level, it is quite possible for the latter to initiate negotiations accordingly. Municipalities, in addition, should closely examine possibilities of obliging providers to join in that endeavour: If enrolment procedures were defined as part of provision quality, they could even become object of the regular negotiations between the municipality and the providers in the community.

One of the most important issues that would need to be addressed, in my opinion, are: the (amount) of information that is gathered about the child and their family and what information is to be made relevant in the actual enrolment decision process. – Why would every provider and potentially every centre design their own demand registration lists, collecting a vast amount of information about the child and their family? Would it not be more appropriate to standardise those - guided by privacy as well as antidiscrimination policies and law? Regarding the information gathered, negotiators should revise documents and forms used and examine, what information is gathered, what information is actually needed. As Drange and Telle (2021) indicated, tending to enrolment procedures applied by institutions may not entirely prevent segregation; even in a system relying on strong regulations, parental choice seemingly promotes segregation. Hence, it is important to relate findings regarding segregating effects of parental choice to findings about institutional choice in order to negotiate and decide on regulations and guidelines for fair and just enrolment.

The answer to the question posed, therefore would have to be, that legal conditions and administrative structures do indeed allow for enrolment practices making use of the freedom to 'institutional choice' in the ECEC system which in result potentially leads to segregation. But it does not, in principle, allow for segregation. Because in principle in the German welfare state any institutional choice needs to be accountable and with respect to issues of equality, diversity and anti-discrimination. Hence: research presented here accumulates in the call for providers and municipalities in Germany to design enrolment procedures that foster accountable choice, following the goal to "create and sustain" (Frankenberg, 2016; Frankenberg & Piazza, 2019) diverse ECEC. Due to highly diverse provision as well as the subsidiarity principle the ways in which this can be achieved are per se diverse. Municipalities and providers, hence, can and need to design eligible procedures appropriate to the regions´ exigencies. Crucially, the task would be to collaboratively revise procedures in place and sensibly designe new procedures that prevent segregation. Needless to say that those procedures should be based on a negotiated agreement – and be implemented as binding for all.

Declarations

Authors' Declarations

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Research Article

What are Singapore parents' perception of play in the early years?

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Abstract: International research indicate that play is the most effective way for children to learn and develop physically, cognitively, socially and emotionally as well as reduces stress and enhances confidence, curiosity and creativity. Despite the importance and benefits of play for children's learning and development, play seems to be vanishing from preschool classrooms globally (and in Singapore) for various reasons. It is believed that one of the reasons for this phenomenon could be the lack of parents' support for children's play due to their high expectations and demand for academic achievement and the lack of their awareness or understanding on the importance of play in children's development. Hence, the key purpose of this exploratory study is to gather data from parents on their perception of play and holistic development in Singapore preschools. Data were collected from 30 parents through interviews using a semi-structured questionnaire. The data collected were transcribed verbatim and coded and subsequently, organised by research question and analysed and interpreted constructively and reflexively. The findings of the study revealed that although most Singapore parents understood and recognised the importance of play and holistic development in the early years, some of them wanted preschools to prepare their children academically for primary school. Parents also shared a list of factors which supported or impeded their support for children's play and some of them felt that they could benefit from parent education programmes. These findings highlight the importance of the school-family-community partnership in the education of young children in Singapore.

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Introduction

Preschool education for children from birth to six years is not compulsory in Singapore. However, most parents enroll their children in a preschool (kindergarten or childcare centre) to ensure that their children are well prepared for primary school (Tan, 2007). In fact, it is reported that about 99 percent of children aged five and six years are currently attending a preschool (Ministry of Social and Family Development [MSF], 2020).

To ensure that children are provided with a quality preschool education, the Singapore government identified four key areas for review which were regulations, teacher-training, research and curriculum in 1999 (Ministry of Education [MOE], 2003). Consequently, in 2003, the Ministry of Education launched the *Nurturing Early Learners: A Curriculum for Kindergartens in Singapore* (NEL Framework) to ensure that children proceed from preschool to primary school with a common set of knowledge, skills and dispositions (MOE, 2012). The NEL Framework which was later revised in 2008 and further refreshed in 2012, in view of current and relevant local and international research on teaching and learning in the preschool years. Subsequently, the Early Childhood Development Agency (ECDA) provided the preschools with intensive training and comprehensive resource materials to support the implementation of the NEL Framework.

The NEL Framework is the first official document for preschool education in Singapore to identify best practices for teaching and learning and to emphasise on holistic development of children instead of

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academic school readiness alone (Tan, 2017). The underlying belief of the NEL Framework is that children are curious, active and competent learners (MOE, 2012). Based on this belief, teachers are expected to implement six *iTeach* principles which is the acronym for *integrated* approach to learning, *Teachers* as facilitators of learning, *engaging* children in learning through purposeful play, *authentic* experiences through quality interactions, *children* as constructors of knowledge, and *holistic* development (MOE, 2012). Purposeful play is defined as teachers intentionally planning the play experiences and organising the environment (based on carefully constructed objectives & facilitation) to enhance children's learning in the preschool (MOE, 2012). Purposeful or guided play where adults scaffold children's learning has been found to be valuable in preschool classrooms (Resnick & Johnson, 2020; Toub et al., 2016).

To ensure the holistic development of the children, there are six learning areas in the NEL Framework which are *Aesthetics and Creative Expression*, *Discovery of the World*, *Language and Literacy*, *Motor Skills Development*, *Numeracy,* and *Social and emotional Development*. Each of these learning areas has its own set of knowledge, skills and dispositions which preschools are encouraged to help develop in the children through careful planning and facilitation of the purposeful play activities.

However, three years later, many preschools are still facing challenges in implementing the NEL Framework (Bautisa et al., 2016). Some leaders and teachers in these preschools cite parents as a key challenge, claiming that parents place high emphasis on the acquisition of academic skills (e.g., language & numeracy skills through drill-and-practice & rote-learning) and are not supportive of a play-based learning (i.e., constructing knowledge through interacting with the physical & social environment) in the preschools (Berthelsen et al., 2011). They also believe that some parents enrol their children in enrichment and tuition classes and hence, preschools are expected to raise the bar to keep up with the children's higher levels of academic skills (Yongbeon & Fung, 2021). This, in turn, has placed pressure on primary schools to raise the bar as well, resulting in spiralling levels of stress placed on the children, parents and teachers in both the preschools and primary schools (Bach & Christensen, 2017; Ebbeck & Chan, 2011; Ebbeck & Warrior, 2008; Lim-Ratnam, 2013). An over emphasis on school readiness skills and employing primary school teaching methods has also led to the 'schoolification' of some preschools in Singapore (Gunnersdottir, 2004, p.1). Consequently, children in Singapore experience stress and have little time for play, rest and fun (Bach & Christensen, 2017; Ebbeck & Chan, 2011).

According to Ebbeck & Warrior (2008), this phenomenon could be attributed to Singapore being a "result-oriented, exam focused education system" (p. 248). Similarly, Lim-Ratnam (2013) also believes that the pressures of Singapore's high-stakes examination system in schools have contributed to a strong emphasis on academic skills in the preschools and schools. This has resulted in parents expecting preschools to prepare their children for primary school academically (esp., how to read, spell & write as well as be able to count, add & subtract) through drill-and-practice and rote-learning (Bach & Christensen, 2017). Parents become concerned, stressed and anxious when their children are unable to meet their expectations (Yongbeon & Fung, 2021). Recent articles in the local media indicated that parents contribute to academic stress and anxieties which children face in Singapore (Qing, 2021). One of the reasons for the lack of parents' support for children's play in preschools could be due to their high expectations and demand for educational achievement, and their lack of awareness or understanding on the importance of play in children's development (International Play Association [IPA], 2010).

While parents in Singapore want the 'best' for their children, they may focus on academic school readiness skills, and not realise the importance of both academic and non-academic skills, and the well-being of children for a smooth transition from preschool to primary school (Dockett & Perry, 2001; Gunnersdottir, 2004). They may not also realise that holistic development of young children is important for future school, work and life (Bach & Christensen, 2017; Tan, 2017). Hence, this exploratory study intends to gather data on parents' perception of play and holistic development in the early years as well as understand what their fears, anxieties and concerns are and more importantly, why they have such fears, anxieties and concerns about their children's preschool education.

Concept of Play

While play has been universally accepted as important and beneficial to young children, it is difficult to define play precisely and concisely (Whitebread et al., 2012). However, play is commonly viewed as pleasurable, voluntary, spontaneous, engaging and intrinsically motivating (Bullard, 2017) and contributes to children's happiness and mental well-being (Fisher, 2008). Children can participate in different types of play (e.g., exploratory, constructive, dramatic, etc.) which could involve the use of toys, books, blocks or other materials (Bullard, 2017; Fisher, 2008). Children can play alone (solitary play) or with others (parallel, associative or cooperative play) (Bullard, 2017; Fisher, 2008).

It is believed that childhood is a time where children build social skills, learn values and emotional intelligence through play (Yongbeom & Fung, 2021). Besides providing children with opportunities to explore, learn and solve problems, play also helps to enhance their confidence, curiosity and creativity (Malkovichuk et al., 2014) and reduce their stress (Wang & Aamodt, 2012).

Play creates powerful opportunities for children to acquire critical knowledge, skills & dispositions across various domains of development (including physical, cognitive, social & emotional) in their early years (MOE, 2012; United Nations Children's Fund [UNICEF], 2018). Hence, play is pivotal in preparing young children holistically to succeed not only in preschool but also in later school, work and life (Clouder, 2004; Weisberg et al., 2014).

Relationship between Play and Learning

Play, learning and holistic development are intertwined and there are many benefits of play, learning and holistic development for young children (Ducusin & Dy, 2016). Since play and learning are not dichotomous, many countries around the world have emphasised the explicit link between play and learning (and not play versus learning) in the early years (Rentzou et al., 2019). These countries have deliberately made learning through play or play-based learning the central pedagogy for their early childhood education (Bubikova-Moan et al., 2019).

Play-based learning which is being universally recognised as a developmentally appropriate practice, involves child-centred learning, hands-on experiences and open-ended inquiry (Moore et al., 2014). Unlike direct or didactic teaching, children in play-based learning environments are encouraged to explore, express and make their own choices within meaningful, engaging and authentic contexts, through the holistic employment of their physical and intellectual capacities, and social-emotional abilities (Bergen & Fromberg, 2010; Bullard, 2017, Fisher, 2008; Howard, 2010).

However, progressing from direct teaching to play-based learning has posed challenges to preschool teachers and parents (Keung & Cheung, 2019). Hence, it is essential for preschool teachers and parents to work together to nurture and support the development of the whole child (or holistic development of the child) through play-based learning (Pyle et al., 2017).

Socio-cultural Perspectives of Play

Despite the importance and benefits of play for children's learning and development, play seems to be vanishing from preschool classrooms in many countries (Resnik & Johnson, 2020; Warash et al., 2017). In a report on the implementation of Article 31 of the United Nations Convention on the Rights of the Child (UNCRC), the International Play Association (IPA, 2010) has revealed that there is a lack of children's play globally due to "excessive pressure for educational achievement" (p. 38) and a lack of parental "awareness of the importance of play in children's holistic development" (p. 27).

International research has also revealed that there are cultural differences in parents' perceptions of play (Babuc, 2015). While Euro-American parents tend to view play as important for the children's learning and development in the early years, Asian parents tend to believe that there is little value in play (Parmar et al., 2004). One of the key reasons behind Asian parents' perception that play has little value could be attributed to the tension between play and learning (Howard, 2010; Toub et al., 2016). While the dichotomy between play versus learning has been generally debunked, some Asian teachers and parents continue to

hold the view that play is for fun and enjoyment, and learning is for acquiring academic skills (Keung & Cheung, 2019). They also believe that academic skills can only be acquired through drill-and-practice and rote-learning (Yongbeon & Fung, 2021).

Despite extensive research on the importance of play in the early years, many Asian parents (including Singapore parents) continue to place high emphasis on preparing their children academically for primary school as early as possible. They place undue stress and pressure on their children and preschools as well as enrol their children in various enrichment and tuition classes, believing that this would increase their children's chances of succeeding later in school, work and life (Bach & Christensen, 2017; Tan, 2017).

School-family-community Partnership

Play-based learning which provides an excellent environment for promoting young children's academic and non-academic learning and holistic development, encompasses both free play and guided play (Bullard, 2017; Hui et al., 2014; Weisberg et al., 2013). During guided play, teachers and parents can be co-players or take a participative role during children's play activities (Howard, 2010). They can also play an active role in preparing the environment, materials and activities as well as responding sensitively, asking open-ended questions and providing suggestions in order for children to reach precise or intended targets (Peterson et al., 2017; Pyle et al., 2018; Pyle et al., 2020; Toub et al., 2016). Such guided play is also known as purposeful play in the NEL Framework (MOE, 2012).

If play and holistic development are crucial for children in the early years then, it is important for Singapore parents to understand, appreciate and support play and holistic development (Peterson et al., 2017; Pyle et al., 2018) as well as the play-based learning presented in the NEL Framework (MOE, 2012). In order to provide the necessary information, programs and support to help Singapore parents, it is first important to stop and listen to them.

Hence, this exploratory study intends to gather data on parents' perception of play and holistic development as well as understand what their fears, anxieties and concerns are and more importantly, why they have such fears anxieties and concerns. It also intends to identify factors that support or impede parents' support for children' play and holistic development as well as how they can be supported. The idea of schools and the community engaging and involving parents in their children's education is based on Joyce Epstein's School-Family-Community Partnership Model which was developed in the 1990s and remains influential in the field of education despite undergoing revisions over the years.

Hence, the research questions (RQs) for this study are as follows:

RQ1: What are parents' perceptions of play and holistic development for their young children?

RQ2: What are the factors that parents' consider contributing to or impeding parents' support for play?

RQ3: What are the kinds of assistance and support that parents think they need to support and guide their children's play and learning?

RQ4: What are parents' goals for their children's preschool education? What are parents' overall goals for their children's education?

The findings from this study will help inform preschools and the community (e.g., teacher-training institutes, employers, policymakers, etc.) on how they can support parents and their children in the early years.

Method

This exploratory study is primarily qualitative in nature in order to obtain data from participants in a naturalistic setting which would be rich, thick, descriptive and insightful (Bogdan & Biklen, 2003; Cohen et al., 2011; Creswell, 2008). As such, the sample size was intentionally kept small in order to ensure that

data collection and data analysis were both manageable and practical but yet meaningful and useful as well as fit for purpose of the study (Cohen et al., 2011). Prior to commencement of the study, approval was sought and obtained from the Nanyang Technological University Institutional Review Board (NTU IRB).

Participants

A total number of 30 parents (fathers & mothers) with at least one child aged four to six years old, were invited to participate in the study through purposeful sampling (Cohen et al., 2011; Creswell, 2008). These parents were approached through the preschools (kindergartens or childcare centres) which were located in various parts of Singapore. However, as the sample was small and comprised parents who were willing and agreed to participate in the study, it was not completely representative of the population in Singapore. However, the demographic data were collected from the parents prior to the interview and summarised and presented in Table 1.

Table 1. Parents' demographic data

Category	Number of Mothers	Number of Fathers	Total Number of Parents
	21	9	30
Type of Service			
Childcare	7	5	12
Kindergarten	14	4	18
Racial Composition			
Chinese	13	7	20
Malay	5	1	6
Indian	2	0	2
Eurasian	1	1	2
Highest Education Level			
Tertiary	17	8	25
Post-Secondary	2	0	2
Secondary	2	1	3
Occupation Type			
Homemaker	9	0	9
Teaching	6	1	7
Non-Teaching	6	8	14
Gross Monthly Income			
NA	3	0	3
$2000 and below	1	0	1
$2001 - $4000	3	5	8
$4001 - $6000	8	3	11
$6001 and above	6	1	7
Type of Housing			
Public	19	8	27
Private	1	1	2
Other	1	0	1

Data collection

Instrument

Data was collected from the parents through one-to-one, face-to-face interviews using a semi-structured questionnaire. The duration of each interview which was about two hours long, was conducted at a venue which was convenient and agreed upon with each parent. During the interview, parents were asked open-ended questions as stated in the questionnaire. Examples of questions asked to solicit their response are *Do you think 'play' is important in the early years? Do you think 'play' is being supported in the early years in Singapore?* and *What do you think preschools can do to support you or your child's play and learning at home?* Parents were also asked probing questions to gain a better and deeper understanding of their *responses.*

Procedure

Prior written consent was sought and obtained from the parents who were willing to participate in

the study. The parents were briefed on the purpose of the study, data collection procedures and confidentiality of their responses. They were also informed that participation was voluntary, and that they could withdraw participation at any point of the study.

The interview data which were audio-recorded, were then transcribed verbatim, organised and coded manually and carefully. Personal information such as parents', children's and preschools' names (if mentioned during the interview) were coded and anonymised. For example, C1P1 means Centre 1 and Parent 1.

Data analysis

Following data collection, the data were analysed inductively and reflexively by the research team comprising the Principal Investigator (PI) and Research Assistant (RA) with extensive experience in the field of early childhood education (Hammersley & Atkinson, 1983; LeCompte & Preissle, 1983). Data analysis involved reading the interview transcripts multiple times to familiarise, examine and code the response of each parent (Miles & Huberman, 1994). Once the responses of all the parents were coded, they were organised and grouped by research question (Cohen et al., 2011). These groups were then reviewed, revised and re-grouped several times and further reduced and refined to identify clear themes, patterns, relationships and comparisons (Braun & Clarke, 2006; LeCompte & Preissle, 1983; Miles & Huberman, 1994; Nowell et al., 2017). The final key categories were then, organized and presented as results. Subsequently, the results were carefully analysed and interpreted constructively and reflexively by drawing on literature that was relevant to the study (Hamersley & Atkinson, 1983; Kiger & Varpio, 2020).

Results

The results from the study will be summarised and presented as key categories to understand Singapore parents' perceptions of play and holistic development as well as the factors that support or impede their support for play, the kinds of assistance they need to support their children's play, and the goals for their children's preschool education. Relevant and interesting quotes from parents (with little or no editing) will also be provided, whenever necessary or appropriate.

Perception of Play and Holistic Development

When asked about their perceptions of play and its role and importance in the early years, parents shared a variety of views. About half of the parents perceived play to be free play with children being given the choice to select their play activity or materials. They felt that play should be fun and enjoyable. For example, C1P7 shared that "Play for a child, is to have fun. It's something that they want to do, and they like to do". Another parent, C1P6 explained that play is "almost unstructured…children are free to explore whatever they want".

Parents also had different perceptions about play and learning and their connection/interconnection in the early years. Almost all parents felt that play and learning cannot take place simultaneously; and that play was for "fun" and "enjoyment", and learning was for acquiring knowledge, skills and dispositions. Only a few parents understood that learning can take place while children are at play. For example, C5P2 shared that "whenever they play, they learn something new. Maybe the rules and regulations, maybe what is right and what is wrong".

Parents were also divided about their expectations of what children would learn through play. Some parents wanted their children to learn academic skills (e.g., numeracy & language skills) and other parents wanted their children to acquire non-academic skills (e.g., social skills & good values). However, only a few parents believed that children would learn both academic and non-academic skills through play. It is interesting to note here that these results could be linked to the earlier results on parents' perceptions of play and learning, where play was for "fun" and "enjoyment" and learning was for acquiring knowledge, skills and dispositions. There were some parents who believed that play could help children relax and relieve stress, and that children should play in their early years as they would have less time to play when they go to school. For example, C5P2 observed that "There was lesser play time as children entered K1 and

K2, with more focus given towards learning and the academics". Similarly, C10P4 whose child was enrolled in phonics lessons, felt that her child should "concentrate on learning rather than playing…start to prepare for primary one".

Similar to play, parents had various perceptions of holistic development. While some parents perceived holistic development to be overall or all-rounded development, other parents felt that it involved development in either the academic/cognitive or non-academic/non--cognitive domains. There were also a few parents who did not know what holistic development meant or involved. For example, C8P3 shared that holistic development is "to grow up to be able to be resilient… to be able to accept setbacks and grow from that…to be able to deal and overcome challenges."

As all the parents were unaware of the NEL Framework, they could not make reference to the links between play, learning and holistic development in the framework.

Factors that Support or Impede Play

Parents were divided on the factors which contribute or impede their support for play. Many parents felt that they were well supported at the home and preschool, and in Singapore. Reasons cited included having more time during the weekends, seeing the child happy and having siblings to play with. The remaining parents shared that they were not supported at home and the preschool, and in Singapore. Reasons cited included lack of time, lack of resources, lack of play ideas, messiness of play, societal pressure on academic learning and academic expectations of primary school. For example, C1P3 shared that "I can play with my children whenever they want me to but for those working mums, I don't think they will have time to play with their children or teach them".

Assistance and Support

When asked what sort of assistance and support parents needed for them to support play, they listed the following areas: 1) childcare expenses, 2) more time, 3) more resources, 4) talks and workshops, 5) less academic pressure in education, and 6) better facilities in neighbourhood playgrounds. Additionally, parents also requested for preschools to provide assistance and support especially, in the following areas: 1) greater home-school partnership, 2) parent education on play and learning, 3) more play in preschool, and 4) more non-academic enrichment activities. For example, C1P7 requested that "it is good if you have more talks for parents".

Goals for Preschool and Overall Education

Parents were again divided between non-academic and academic goals for their children's preschool education. While some of parents listed non-academic areas such as social and communication skills, good values and character, curiosity and enjoy school and learning; other parents listed academic areas such numeracy, language and other school readiness skills. For example, C9P3 explained that "academic goals like basic numeracy and phonetic skills…quite essential because when children enter primary school, they are required to read and write some sentences…will actually help them be more prepared".

Discussion and Conclusion

Incidentally, parents' perception of play seems to be in line with the literature on free play which states that play should be fun and enjoyable, and that children should be given the choice to select their play activity or materials (Bergen & Fromberg, 2010; Bullard, 2017; Fisher, 2008; Howard, 2010). However, parents did not mention other possible types of play and their importance in the early years, and their role in children's play (Howard, 2010; Peterson et al., 2017; Pyle et al., 2018). For example, these parents could either be unaware of guided play, or misconstrued guided play to be drill-and-practice or rote-learning (Bubikova-Moan et al., 2019). Hence, it is important to provide programmes (such as talks, workshops, print or online resources, etc.) for parents to help them understand and appreciate the different types of play and their importance in the early years, and their role during children's play.

Interestingly, the perception that play and learning are dichotomous (i.e., play versus learning instead of play and learning) seems to be in line with the findings of some international and local studies (e.g., Berthelsen et al., 2011; Brownlee et al., 2009). These studies found that teachers with higher professional training in early childhood care and education (ECCE) were able to perceive play and learning occurring simultaneously. Hence, it is possible that parents without professional training in ECCE could lack an understanding or possess a misconception about play and learning in the early years (Howard, 2010; IPA, 2010; Peterson et al., 2017, Pyle et al., 2020). Hence, as mentioned previously, it is vital to organise a variety of appropriate programmes for parents to help them understand the relationship between play and learning in the early years.

It appears that while many parents supported play and understood its importance in the early years, some of them wanted preschools to prepare their children in the academic areas for primary school. As indicated in the local studies, parents in Singapore seemed to be generally concerned and anxious about their children being able to cope with the academic rigours of primary school (Bach & Christensen, 2017; Berthelsen et al., 2015; Ebbeck & Warrior, 2008; Lim-Ratnam, 2013; Yongbeon & Fung, 2021). They did not seem to be aware of the non-academic or soft skills which are also important for school, work and life (Bach & Christensen, 2017; Weisberg et al., 2004; Yongbeon & Fung, 2021). They also did not seem to be aware that children could learn academic skills (e.g., numeracy & language) through play more effectively than drill-and-practice or rote-learning in the early years (Gunnersdottir, 2004; Keung & Cheung, 2019; Weisberg et al., 2013). Hence, it is necessary to engage parents to help them understand the importance of equipping young children with both academic and non-academic skills, and that these skills could be learnt through play and are not only for school but beyond school as well (Clouder, 2004; Weisberg et al., 2013).

There also seems to be a lack of understanding or a misunderstanding that holistic development involved either cognitive or non-cognitive (physical, social & emotional) domains (Bullard, 2017; Clouder, 2004; IPA, 2010). Hence, it would be good to share information with parents to help them understand and appreciate the notion of play, learning and holistic development, and how they are related to each other in the early years. As all the parents were unaware of the NEL Framework, they could not make the links between play, learning and holistic development to the framework. Hence, preschools could consider sharing and disseminating information (through newsletters & circulars) about their preschool programme (such as curriculum, child development & learning) as well as to involve parents in the care and education of their children (Preston et al., 2018).

Parents seem to be divided on the factors which contribute or impede their support for play. For parents who need preschools to assist them in supporting their children's play but have busy work schedules, preschools could consider planning a variety of parent involvement programmes to meet the different needs of parents (Preston et al., 2018). These programmes could include talks on play ideas and transition from preschool to primary school; or workshops on making simple resources for play and how to use puppets and props for story-telling. Additionally, employers could consider providing assistance and support for these parent involvement programmes in the preschools by providing time off for parents to participate in their child's preschool activities, building partnerships/relationships with preschools in the vicinity or setting up workplace preschools (Epstein, 2008).

There seems to be an overlap in the list of goals mentioned by parents for both the preschool education and overall education of their children. Parents seem to see preschool as preparation for formal schooling, and not on its own or beyond schooling. As indicated in the literature, parents in Singapore seem to be generally anxious and concerned about their children being prepared academically for primary school (e.g., Bach & Christensen, 2017; Ebbeck & Warrior, 2008; Lim-Ratnam, 2013). They also did not seem to be aware of the non-academic or soft skills which are important for school and beyond (Clouder, 2004; Weisberg et al., 2013). Research shows that when parents support their children's education, these children perform better in school (Jeynes, 2012; Nunez et al., 2015), and have a positive attitude toward school (McNeal, 2014). Research also shows that parent involvement in preschools can improve parent-teacher relationships, which is important in the education of young children (Winton et al., 2008). Through parent

involvement programmes, parents can also become more aware of the resources and opportunities which are available both in the preschool and community (Coleman, 1988).

Parents seem to look to preschools for advice, support and assistance which could indicate that they value the professionalism of the teachers and leaders. As parents require different types of assistance for supporting their children's play, preschools could consider strengthening their partnership and relationship with parents through better sharing and dissemination of information as well as planning more creative and meaningful programmes for parents (Preston et al., 2018). Employers and policymakers could also consider adopting a more comprehensive, targeted and holistic approach in providing support and assistance to parents with young children (Epstein, 2008). Hence, it would appear that Joyce Epstein's School-Family-Community Partnership Model could be adopted constructively to support and guide the development of effective parent involvement and engagement programmes in the Singapore preschools.

Limitations

The sample size for this study is small which could make generalizations challenging. However, sampling decisions were made within the constraints of ethics and fitness for purpose (Cohen et al., 2011). Information on data collection, analysis, interpretation and reporting of the data were also provided. Hence, the 'burden of transferability' is left to the reader or user of this research to determine the degree of similarity between the setting of this study and the setting of the intended study (Mertens, 1998, p. 183). The other limitation of this study would be researcher-bias in the interpretation, analysis and reporting of the data. However, all efforts were undertaken by the research team to keep researcher-bias to a minimum by being as reflexive and objective as possible and constantly referring to the literature when analysing, interpreting and reporting (Hamersley & Atkinson, 1983). Hence, despite the aforesaid limitations, this study is a good start in capturing and documenting parents' voice in research on preschool education in Singapore as well as recognising parents as an important partner in the education of young children (Epstein, 2008).

Implications and Future Research

Findings from this study could be used to inform preschool education, parent education and teacher education programmes. Findings from this study could also be used to inform future research. For example, follow-up research could be conducted to track children's performance and well-being in the primary years and beyond. The study could also ascertain if parents' views about play and holistic development in the early years as well as their goals of preschool education and overall education change when their preschool children move on to primary school.

Declarations

Authors' Declarations

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