Strategies for exchanging information in Preschool

Stina Nylander
Swedish Institute of Computer Science
Box 1263
16429, Kista, Sweden
stina.nylander@sics.se

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Abstract
We have interviewed four parents and a teacher at a Swedish preschool to investigate the practices for spreading information in preschool. Our findings suggest that frequent presence in the premises of the preschool is important to get information, and that parents rely heavily on routines to make it work. When either of these points fail, breakdowns occur. Discrepancies in parents’ and teachers’ IT use also complicates the information exchange.

Keywords
Information exchange, preschool, parents, teachers, information technology, mobile technology.

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
Taking care of young children in preschool is an activity that involves a great deal of information exchange between parents and teachers. Parents get a lot of practical information and information about their children’s development from preschool teachers. They also need to convey information about the children to the teachers. However, by tradition preschool is a low
tech domain where even common information technology such email is rarely used for communication or information spreading. The main information channels used are oral information and paper notes. We have investigated the practices for spreading information at a Swedish preschool.

This paper is based on interviews with four parents of preschool children, and a preschool teacher. The purpose of the study was to inform future introduction of information technology in preschool activities and here we focus on the present handling of written information. Our findings suggest that the existing routines for keeping track of information rely heavily on presence (at home and in preschool) and that the information usually is non-portable. We also noted a discrepancy between the parents’ and the teachers’ use of information technology that seemed to influence the information exchange.

The studied preschool
The preschool that was the target of this pilot study takes care of 37 children divided into two groups, 16 children in a younger group (1-2 years old) and 21 children in an older group (3-5 years old). The younger group is attended to by three teachers, the older group has four teachers.

The preschool is equipped with computers and Internet access that are used for both administrative tasks and pedagogic activities with the children. Teachers use the computers for example to write notes and letters to parents, report their working hours, and to show parents pictures and movies of what the children are doing in preschool. The children use the computers for example for drawing, watching digital pictures that they have taken themselves (or the teachers have taken of them), and watching movies that the teachers take of certain activities in the preschool. Email is used within the organization for communication between teachers at different preschools, organization of teachers’ conferences and spreading of administrative information. It is only used tentatively for communication between parents and teachers.

Method
The routines for information exchange between parents and preschool teachers have been examined through interviews. Four parents and one preschool teacher have been interviewed individually. The interviews lasted 45-60 minutes and were recorded. The parents were recruited at a parent-teacher meeting at the preschool that the author attended to present the project. The interviews focused on the routines of the preschool for giving information to the parents, how parents give information to the teachers, how the parents keep track of all the information, and where the breakdowns occur. A few questions were also asked about the parents’ experience with technology such as the Internet, email, and cell phones since the purpose of the study was to inform future introduction of technology in the preschool environment.

The interviews were complemented with a visit to the preschool where pictures of places and artifacts relevant to the information spreading process were taken.

Participants
Participant 1 (P1) was a married woman in her thirties with two children, one and three years old. At the time of the interview, she was on maternity leave with her
youngest child, but her older child still attended preschool a few days a week. Since she was staying at home she took care of the dropping off and picking up at preschool, and also kept track of all information concerning preschool. Her primary tool for that was a day planner where she noted all important information. She reported that she used the Web and email frequently during her maternity leave, and would go back to her work where she uses the Web and email daily. Her cell phone was Web enabled and she had tried to surf from it once.

Participant 2 (P2) was a married woman in her thirties with one four year old child. Both she and her husband were working, and she took care of most of the dropping off and picking up their child at preschool, with some help from her mother-in-law that sometimes picked her child up from preschool. She was the one in the family that is responsible for keeping track of the information from preschool, and wrote things down in a day planner that she carried in her purse. The list of dates when the preschool is closing early was posted on the fridge, and she sometimes let notes from preschool lie visible in the kitchen so that her mother-in-law could read them. She used email daily in her work and had a Web enabled cell phone. She had tried occasionally to surf from the phone but it was not a habit.

Participant 3 (P3) was a married man in his forties with six children, three with his current wife (aged two, four, and six), and three teenagers from a previous marriage of which two lived every other week with his current family. The two youngest children attended the preschool described in this study. Both he and his wife worked, and they shared the responsibility of dropping off and picking up children. The family had a kitchen calendar with one column for each person in the family where important events and reminders were noted, which he referred to as the main information point in the house. He kept his own calendar in his cell phone, his wife had her calendar, and he reported that their personal calendars usually were not fully synchronized with each other. Besides the kitchen calendar the family also had a poster by the front door with things that needed to be remembered for each day of the week, such as sports clothes Monday, picnic lunch Tuesday etc. He used email daily both for work and private purposes (but used different computers for each purpose to keep them separated), and had a Web enabled cell phone but did not use it to surf the Web.

Participant 4 (P4) was a married woman in her forties with two children aged four and six, of which the youngest attend the preschool described here. Both she and her husband were working, and they shared the responsibility of dropping their children off and picking them up at preschool. Her husband dropped them off every morning, she picked them up three days a week, and the other two days the grandmothers picked them up one day each. She was the one responsible for keeping track of the information in the family and writing it down in the kitchen calendar or posting it on the message board. Usually, she also told her husband when something was going on since he rarely looked in the calendar. She had no personal day planner. She had a desk calendar at work where she also noted personal and family events. In her work she used email daily but she had never tried to surf from her phone.
Different types of information

The main information channels are paper notes (mostly from teachers to parents) and face-to-face communication and the information exchanged between parents and preschool teachers mainly concern three broad areas:

- the children and the activities in general – parents tell teachers in the morning if there is anything special with their children that day, teachers tell parents in the afternoon what has happened during the day. The main part of this information exchange is oral, but teachers usually write a summary of the day’s activities in the schools wall calendar.

- logistics – parents inform teachers about when the children will be picked up, sick children that are not coming to school, doctor’s appointments, vacation dates and the like using face to face conversations, phone calls and paper notes. Teachers inform parents about things to bring, when preschool is closing early, diseases etc. using face to face conversations and paper notes.

- events – the preschool is taking the children to the theatre, parents are invited for the Easter party etc. This information is always conveyed in written form, in the monthly letter, separate notes or both.

The daily information exchange between parents and teachers are oral. Parents tell teachers in the morning if anything in particular is going on with their children, a dentist appointment coming up. In the afternoon teachers inform parents on what has happened during the day. Parents also call in and tell the teachers if their children are ill.

Paper is used for information about dates, events, decisions and reminders. A monthly information letter with summaries of the past month’s activities and important dates to come is distributed to the parents, complemented by reminder notes and extra notes when something comes up.

Email is only used occasionally in the studied preschool. No routines have been established yet as to what information could be distributed electronically.

Strategy 1: Physical places for info

Both preschool teachers and parents use physical places to help them organize the information and draw attention to it. Various places at school and in the home are used for different kinds of information.

Information places at preschool

The most important source of information for the parents is a toilet paper roll (see figure 1). Each child has paper roll attached to the wall besides the entrance which serves as a mail box. All the written information from the teachers is put in the roll. The interviewed parents reported that the first thing that they did when entering the preschool was to check if there was anything in their child’s roll.

There are several message boards in use. At the entrance there is one with general information to parents, such as the pedagogic plan, documentation from PTA meetings, important phone numbers, the menu for the week etc. Each of the two child groups also has a message board where information about the daily activities is posted. Parents with children in both groups thus have three message boards to keep track of.
Important information is posted on the front door so that no one can leave the building without noticing. Examples of such information are when the preschool is closing early or that contagious diseases are spreading (e.g. chicken pox). Especially important information is also posted on the outside of the front door so that it is visible on arrival, for example the reminder that the preschool is closing early today. The staff has a policy to keep as few messages as possible posted on the front door to avoid cluttering. The messages are color coded to some extent, i.e. red paper is by agreement only used for messages concerning illness.

Information places at home
A wall calendar in the kitchen is a common way to organize information concerning various family members [1]. Three of the interviewees reported that their family had one where everything was written down. One of them usually looked at the calendar in the evening, after dinner, another one looked at least every morning.

“I look at the calendar several times a day. Don’t know why, guess I’m afraid to forget something.” (P4)

One family had a poster on the inside of the front door with a list of things that needed to be remembered or packed for each day of the week: fruit on Monday, sports clothes on Tuesday, picnic lunch on Wednesday etc. However, such a reminder easily gets ignored after a while:

“Maybe we should move the poster around once in a while so that we notice it. Now we almost don’t see it anymore.” (P3)

Strategy 2: Routines
Three of the interviewees said that their family had an explicit agreement that the person picking up the children also brings home any note that is found in the roll. Taking the note in the morning had proved to be a bad strategy.

“I don’t dare to take it in the morning, I did it once and it got lost and we missed something. It’s better to take it directly home and write down the info in the wall calendar” (P3)

All the interviewed families had their own fixed schedule for who was dropping off and picking up the children from preschool to avoid misunderstandings.

“My husband drops the kids off every morning, I pick them up three days and each grandmother picks them up one day.” (P4)

Strategy 3: Information technology
The preschool used very little electronic information in their communication with the parents. A few short-lived attempts with email reminders for the days when the preschool closes early had been made but no routines were established. Our participants, however, reported using email daily and two of them reported that they would like the preschool to use email for certain information purposes. Two participants reported using mobile technology to help them manage their personal information.

One of our participants reported that he, for personal purposes, used his cell phone as a calendar and that he frequently used the alarm function to be reminded about upcoming calendar events.
“An hour before you came the phone beeped and reminded me that you were coming, otherwise I would have forgotten completely.” (P3)

Another participant reported that she did not use the calendar functionality in her cell phone but that she frequently used "mobile notes". With mobile notes she could make a note about an upcoming event and put it as a wallpaper on the screen of the cell phone. Since she used the phone instead of a watch she looked at it repeatedly during the day and thus saw the reminder for the event.

“That way it is rubbed in.” (P4)

**Fallback strategies, when all else fail...**

Of course, even though strategies for spreading information may be carefully designed and well implemented, they sometimes do fail. One example that came up during the study was the collection of vacation dates for all families before the summer (the study was conducted in late May so the topic of vacation was highly relevant). Forms for reporting the vacation dates had been distributed to the parents during April and posters to remind them to hand the forms in had been posted in the premises. However, many parents did not return the forms so teachers fell back to good old “chasing and reminding”. They tried to keep in mind who had returned the form and reminded those who had not. This sometimes took the form of going to the office to check who needed to be reminded and, during that time the family had left so the teacher had to run after them out on the side walk. The interviewed preschool teacher reported that such things take a lot of time. Teachers also remind parents in more general situations such as when there is an event scheduled for tomorrow. One of our interviewed parents said that he did not know if teachers reminded everyone or just him about events, but he did not mind being reminded.

“It doesn’t bother me. It would be worse if they said ‘don’t forget to pick up your kid’, that would hurt more.” (P3)

Participants also reported that they sometimes call other parents, or the preschool, to find out if something special is up, for example if they have been away for a few days.

“If the kids have been sick we usually call preschool to check if something is up for next week. If we have been away we check with other parents if there is something we need to know.” (P3)

**Breakdowns and consequences**

Breakdowns usually happens when deviations from routines occur, such as when the preschool closes earlier than usual (happens one day a month), or during periods of time when parents have a lot on their mind such as the weeks before Christmas. Consequences are mostly minor, (often due to the flexibility of the teachers) but none the less they cause irritation, frustration, and steals time from teachers.

The most serious consequences of information breakdowns are those who steal time from the main tasks that teachers are to perform. For example, when parents do not provide requested information in time (such as vacation dates), teachers need to spend a lot of time keeping track of who has not provided the information and remind them in various ways. One
such problem used to be parents that needed phone numbers to other parents because the children set up play dates themselves during the day. Thus, in the afternoon when many parents arrive at the same time and want to talk to the teachers about the day, they have to go into the office to get phone numbers. This was so frequent and time consuming that it was solved by posting a list with names and phone numbers at the entrance so parents can find the numbers without asking the teachers. The interviewed teacher reported that it is very important for all teachers to be able to spend time with the children. That is their main work task and also the most rewarding. When the time with the children is restricted due to administrative work, extra information work or other tasks, teachers easily get frustrated and feel that they are not allowed to do their job. Therefore, they work hard to make the information exchange with parents as efficient as possible.

"When the time with the children shrinks the teachers get frustrated.” (Teacher)

Practical problems could usually be solved by quick expeditions back home to get things that were left behind or to the grocery store when the picnic lunch was forgotten.

"Luckily, Engströms [the nearest grocery store] opens at 8am.” (P2)

Parents also reported that the preschool teachers work hard to keep the consequences from the children when breakdowns occur. For example, the children of course get lunch even if the parents have forgot to report that they are not sick anymore and will be back at preschool, and children do not get left behind when the preschool is closing early and parents forget about that. However, the interviewed parents reported that such breakdowns sometimes cause family internal arguments about who was at fault.

"We argue about whose fault it was.” (P3)
Discussion

Our findings suggest that many issues of parent-teacher information exchange center around three areas: presence, routines and discrepancies in technology use.

**Presence**

The routines of spreading necessary information both to parents and to teachers rely heavily on physical presence in the facilities [5]. In many cases this works well since parents drop off and pick up their children every day, which allow them to both get information from and give information to the teachers. However, if a child is absent due to illness there is a problem. Very little information gets through if you are not coming to the school.

"Before Christmas last year we were sick a lot and we totally lost track of what was going on. I think we missed a lot that we didn't even know about." (P1)

The interviewed parents reported that they sometimes call the preschool or other parents to check if something has come up while they have been at home with sick children.

The other central place for information is the home. Most of the interviewed families had a wall calendar in the kitchen and a message board for notes. This information is accessible even when children are staying at home sick, but when the family is traveling or the parents go to work they lose access to the information. Picking up children in the afternoon is for example an activity that does not start from home. Parents go from work to the preschool to pick the children up which means that they cannot check the kitchen calendar during the day to see if there is something special to adapt to.

We will look at various ways to make some of the information accessible remotely to make it easier for absent families to keep track of the information flow.

**Deviations from routines**

An example of where the information practices fall short is when the preschool closes early (happens one day a month). These dates are announced in a special note that is distributed in the beginning of the semester, it is mentioned in the monthly letter and it is posted on the front door on the actual day. Parents reported carefully noting these dates since they need to depart from their established routine of picking up their children. However, staff reported that in average one family per occasion (different families every time) were late to pick up their children the day when they close early, and needed a reminder by phone. A probable reason for this is of course that deviations from routines are always difficult [2]. But moreover, it is very common that one parent drops the kids off and the other parent picks them up which breaks the principle of presence. The parent that sees the reminder in the morning is not the one that needs to come early in the afternoon. For some families, nannies and/or grand parents are also involved in picking children up from day care. The usual case is also that the parent picking up the children comes directly from work which means that they do not have access to the family’s central kitchen calendar. Our findings suggest that the present methods for spreading information in the preschool in question do not fully handle deviations from established routines. These situations call for
information adapted to the situation such as various kinds of reminders [3, 4].

Discrepancies in technology use
It was obvious from the interviews that there is a discrepancy between how information technology is used in the preschool and how the interviewed parents used it in other parts of their lives. Information technology has only to a small extent entered the preschool while the parents were frequent users of email and the Web.

"For me I think maybe email would work better." (P1)

When the parents communicate with each other, for example about organizing activities, they often use email. For example, when the parents organized a day of fixing things in the preschool and cleaning the yard the vote about which day to do it was made by email. When the date was set, a paper note was distributed to everyone since that is the official way to announce an event. P2 also reported that the minutes from the last meeting with teachers and parents were taken by a parent and then emailed to everyone.

Some of the shortcomings in the information exchange between parents and teachers could be mitigated by using communication channels that the parents use in their daily lives.

Future work
The findings presented here will serve as input in a project where the potential role of information technology in preschool will be investigated. Based on these findings, we will experiment with web pages accessible both from desktop computers and cell phones to address the need for information access from other physical places than the home and the preschool. We will also study the possibilities for providing timely reminders for situations that deviates from established routines.

Conclusions
We have identified presence and routines as important foundations for the information exchange between parents and preschool teachers. This has led us to consider ways of making the information remotely accessible, and provide reminders in situations that deviate from routines. We also believe that an increased use of information technology from the part of the teachers, to match that of the parents, would improve the information exchange.

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