Using Lightspan technology to build school to home connections

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Abstract
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The implementation of school computer lab sessions scheduled at night for families is described. This project was designed to 1) discover the ways families interact while using computers, 2) determine if families enjoyed using the lab together, and 3) document whether participation in the computer lab increased participation in other school events. Educational software monitored in this study was produced by Lightspan Incorporated for use in 1) school computer labs and 2) the Lightspan Achieve Now program, which contains the same software as the lab version but is compatible for use on Sony PlayStations at home. Suggestions for improvement upon the study are also shared.
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Using Lightspan Technology to Build School to Home Connections

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by
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Abstract

Family involvement in children's emerging literacy is critical to their school success. School personnel can support family literacy by becoming acquainted with families and providing home strategies and materials. Teachers can guide caregivers to the resources of the school and public libraries for books and software. Schools can offer caregivers instruction on computers as a learning tool for children.

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Once upon a time, there was a country where literacy was a highly sought after ability. In this land, children hungered for stories and scampered to their parents' laps to hear them read aloud. As they turned the pages of well-worn books, they could hardly wait to read on their own. These children entered school with a wealth of background experiences and exposure to language and print. The teacher directed them to new experiences, the children learned easily, and they read happily ever after ...

As educators, this wish we make for our students is fanciful in too many cases. We want to hope countless books have been read to children. We want to believe that they come to school loving books and ready to digest experiences in a print-rich environment. We want to assume that they have had many meaningful conversations with adults. These perspectives of language experiences in the home are based on studies that support parental involvement in nurturing their children's language (Morrow, 1995). Many students, however, come to school experiences from backgrounds that do not promote literacy. For some children, limited interactions with oral language and print in the home make language learning in the school a cumbersome task.

Studies of Family Literacy

Parents play a critical role in their children's development. Some parents do not have the necessary knowledge to guide their children's development of literacy strategies. Winters, Rubenstein, and Winters (1987) report that parents who dropped out of school are more likely to have children who also drop out of school (as cited in Askov, 1991). Sexton found a correlation between parents' socio-economic status and their interaction with their children's school experiences. Poorer parents had less knowledge of how to communicate with the school and lacked the confidence to do so effectively. Middle income parents who had higher achieving children had more frequent contact with the school which was associated with higher student achievement.
These research studies indicate a need for more support for families of lower socio-economic and educational levels (as cited in Shuck, Ulsh, & Platt, 1963).

If the "reading fairy tale" for all students is to be fulfilled, educators must be willing to help redirect the script. School communities must support parents/caregivers in recognizing and engaging their children in meaningful literacy activities. This "happily ever after" ending can be achieved through various means, including provisions for family literacy programs, parent resource/lending rooms, and technology resources. But first, schools need to understand individual families who do not promote literacy in their homes and the issues existing within their homes.

School Programs to Foster Home Literacy

Schools need to assist parents in raising literacy levels in order for them to address their critical social problems. Their overall value of literacy will be increased when it is used for purposes meaningful to their daily lives. Accommodations for parents with low levels of literacy need to be considered when communicating through notes and newsletters (Morrow, 1995).

Parent resource rooms can assist them in learning of educational opportunities available to them. Also, these rooms can serve as a resource for home/school programs that encourage family storybook reading. The 1994 Carnegie study, Starting Points, found that only fifty percent of infants and toddlers are read to routinely by their parents. Many parents gave insufficient attention to their child's intellectual development (as cited in Barlow, 1997). Storybook reading has been identified as the most predictive activity for success in reading. When children are active and engaged in discussions about stories that have been read aloud to them, they can begin to identify letters and words and learn the meanings of those words (Anderson, Hiebert, Scott, &

Taylor and Strickland (1986) offer practical advice to parents for reading aloud to young children: Make storybook reading a ritual, select books for reading aloud that are connected to the child's life in some way, build story sense, model reading as a source of information and pleasure, and create meaningful language/literacy experiences for children. Teachers can share and model these suggestions for parents at open house nights and informal parent resource room gatherings and through school web sites, peer coaching, and through videotaped demonstrations available for check out.

The home environment can produce positive reading outcomes. These environmental elements can foster literacy: Readily available children's books, frequent reading to and with children, special space and opportunities for reading, positive parental attitudes toward language and models of reading, frequent visits to libraries, and many parent-child conversations (Metsala, 1996). The lack of access to print is the common denominator among poor readers. All libraries need to be stocked with quality books. Public libraries should be more largely funded to buy more books that address the diversity of the American culture. More time needs to be given to students to read independently during school. Schools can work to develop large lending libraries that are open at parent-friendly hours to increase access to books. In poorer neighborhoods, where transportation is an issue, the school can sponsor bus field trips to the local public library. Local charities can be approached to donate books for increasing the amount of print available in the homes (McQuillan, 1998).
Family Literacy Programs

Several organizations have been actively engaged in the promotion of family literacy. The International Reading Association's Family Literacy Commission distributes a brochure, by Morrow, Paratore, & Tracey, that has as its goal to raise home literacy awareness and defines the family literacy approach (as cited in Morrow, 1995). Experiences can include sharing stories and ideas, reading and following directions, lists, letters, notes, and drawings.

School personnel can increase the comfort level of caregivers in sharing literacy activities with their children by helping them to recognize various ways they already use print. In *Family Literacy* (1995), Morrow (1995) has published several samples of surveys that can be used to help parents understand the types of literacy activities their children may benefit from at home. These checklists can be returned to school on a weekly basis for data collection and feedback.

The Barbara Bush Foundation for Family Literacy was created in 1989 and is involved in funding programs. Neuman, Caperellie, & Kee (1998) reviewed the 52 projects that the Foundation had awarded up to $50,000 for each program for the nature and effectiveness of these programs, the unanticipated results, and the social practices that might be changed. Parents reported that the elements of the most successful programs were parent inclusion in the planning of the program, activities for the whole family, on-going assessment, social networking, an integration of services, and help with career and learning development (Neuman, et al., 1988).

The authors also discovered several key elements in their analysis of programs. They concluded that the school faculties should consider offering choices and opportunities to families rather than trying to force literacy engagement. The backgrounds of families should be used in program development. The school should also realize that changes may be small and may occur over time with direct and indirect benefits.
Technology is a tool that is beginning to bridge the home-school connection. For those families with computers, many software resources are now available on the Internet. Once such resource is Lightspan (http://www.lightspan.com). This site has many learning games and parent articles. Another website committed to increasing communication between home and school is Virtual Education (http://www.virtualed.org). On this website, teachers can post themes, lesson plans, assignments, announcements, and calendars that parents and students can access at home. The website also allows parents to e-mail teachers. There is potential for parents' literacy levels to increase with exposure to this type of connection with the school as well as their children's.

Implementation of a Home-School Connection

In a parent liaison position in an elementary school, funded by a Reading Excellence Grant, my focus was on increasing the literacy of families and providing more opportunities for families to engage in activities that foster children's literacy strategies increase both at school and at home.

Many of these neighborhood school's homes lack print resources to expand story experiences. One way the school was attempting to promote family literacy was through the Lightspan Family Computer Lab Nights, which provided families access to school's resources after school hours.

As a parent and community liaison for the school, I have been designated as facilitator of an open house night approximately once a week in the school's computer lab. The school received a Reading Excellence Grant and used those funds to purchase Lightspan software. Lightspan considered four main factors when designing their products: 1) Children need to spend more time learning; 2) Partnerships need to be created and expanded between homes and schools;
3) Issues of equity and access need to be addressed; and 4) Children need to have enthusiasm towards their learning (Lightspan, 2000). Designing products with these elements in mind, Lightspan has created interactive software that is colorful and motivating. Children enjoyed using this type of product even in their spare time. The Lightspan Achieve Now products can be used in thetelevisions of homes. The school provided the PlayStation that the discs are used on to families. Family involvement was necessary for students to participate in the Active Now program because parents needed to come to an informational meeting in order to check-out the PlayStation for use at home. Students used the Lightspan computer lab programs with their classroom teachers, but they could also come to the evening sessions with an adult, to have additional practice. Lightspan software was in alignment with the school district's curriculum. Teachers could select from many titles to support the skills and strategies they were teaching students.

An example software program is K9.5-1 Live in Airedale (1999), which was a favorite of students who visited the lab. After clicking on the game icon, students were introduced to the storyline through a short animated film clip. In this adventure Ella and Gershwyn are traveling by hot-air balloon to meet the rest of their band for a performance. Unfortunately, the band's instruments are swept away by wild wind and dropped in three locations - a swamp, a forest, and a canyon. The students have to help Ella and Gershwyn find their instruments by singing from a guidebook and playing all the games on the software program. They hear audio directions and can use audio support to read text. To get the main characters through the swamp, students have to identify nouns and adjectives as they swing from one vine to the next. In the forest area, students work on dividing words into syllables. A woodpecker erases the incorrect syllable lines that a student may place in a word.
In the canyon, students have to select correctly the verb with the correct ending in incomplete sentences. Once the students answer five questions correctly, they get to play a game that uses eye/hand coordination to break down a wall. When students have found all the instruments, they are rewarded with a song by the K9.5s...

"We Are the Dogs."

Liquid Books 1: Lety's Favorite Stories (1999) is another example of Lightspan lab software. This program is designed to help build fluent readers and writers by having students actively participate. Students read along with the narrator and try to identify characters and the story plot. Leticia Torres invites the students into her bookstore where they can select one of three interactive books - "Under the Pepper Tree," "African Tales," and "Who Am I?" Students are encouraged to solve problems, use critical thinking skills, and read different texts as they move throughout the stories and poems.

I selected this program to study in-depth because I wanted to see what kinds of opportunities existed for children and their families using technology. The focus of my observations included: 1) How do families interact while using educational software in the computer lab setting? 2) Was the use of the computer lab by families an enjoyable experience? 3) Does participation in the computer lab increase involvement in other areas? My observations of the participants of this evening program were slightly hampered due to the low turn-out, but I believe I was able to get accurate descriptions of their behaviors in the lab.

Schedule of the Program

The Lightspan computer lab was open on Tuesdays from 4:00-7:30 p.m. on a drop-in-basis for families. On occasion, the scheduling had to be changed to accommodate school activities. Sessions were held on October 17, October 24, November 21,
November 28, December 5, December 12, December 19, January 4, January 19, January 23, February 1, February 6, February 12, February 20, and March 1. The lab was open for a total of 56 hours. Because of the weekly drop-in invitation to families, not all of these hours included people in the lab. On most nights, families tended to come after 5:30 p.m.

Participants in the Program

The school was located in a poor socio-economic neighborhood. Many of the nearby homes had been made into multiple-family rental properties. Parent involvement, as measured by attendance at first quarter conferences, was down to 85% from 90+% last year. Seventy percent of the children ate a free or reduced cost lunch. The student mobility rate was 59%, which meant that more than half of the students moved during the year. The percentage of the students falling below the 40th percentile was 76.3%.

The staff in their efforts to meet the students' needs and to create more family involvement in the school decided to open a computer lab at night for families. The computer lab had 26 CD Rom computers. One was attached to an LCD overhead projector so that programs could be demonstrated to the participants. The lab was the size of a typical classroom, with computers lining the walls and on two interior rows of desks. The lab also had a white board and bulletin board on two walls. Software was stored on shelves on another wall. With the exception of no food or drink allowed, it was an inviting setting for learning. The classroom teachers had introduced the software to the children during the school day so they were acquainted with the programs. In the evening sessions, the families were asked to sign a form when they arrived at the lab. This sheet indicated their names, the name
of their children's teacher(s), date, their children's grades, and the software programs used that evening. These sheets were copied and shared with classroom teachers.

Observations of the Computer Lab Participants:

During the course of my observations, 12 families, including thirty-three students and their parents participated. Students came with mothers, fathers, uncles, grandpas, grandmas, and neighbors. Students were ethnically diverse and of different ages, from preschool to tenth grade. Families were numbered only as a means of identification and their order of participation in the lab on various nights.

Family One. The first family observed were positive in their interactions with each other. They attended the computer lab three times: October 17 & 24 and January 4. The second-grade daughter encouraged her mother to select the same CD so they could use it together. The mother responded to her daughter's prompting, and they used the same computer program, but on separate machines. After an extended amount of time spent on this program, the mother sat back and watched her daughter use the software. This family made a second visit to the computer lab at a later date. The same type of interaction occurred. On the second visit, the mother asked me to demonstrate PowerPoint software for her. This family came back to three make-and-take activities also sponsored in the evening. They did attend the lab sessions after the first of January because they borrowed the school's software to use on their home computer.

Family Two. The second family who came was a father and his second-grade son and fourth-grade daughter. They came to the lab only once on October 17. The children worked independently on the software programs. The father shared his computer expertise with me. This family did not make any return visits to the lab, but they contributed to the art supplies of the make-and-take room. They attended one of
these sessions and other school events. They did not participate in the Lightspan Achieve Now home program, even though they had a computer at home.

Family Three. The third family came on November 21 & 28, December 12, and February 6 & 20 to participate in the Lightspan family night. On the first night, the mother, her fifth-grade daughter whom she did not have custody, and another woman who was the mother's friend attended the session. Interactions with the mother and her daughter were generally negative and punitive. The friend of the mom interacted more positively with the daughter. Each participant sat at their own lab computer and worked on different software. The daughter tried to get her mother's attention by asking her questions or prompting her to watch, but her mother was more engaged in her own pursuits at the computer. The mother and her daughter have made four return visits, without the mother's friend and with a fourth-grade daughter. On those additional nights, the two sisters interacted with one another, but the mother still used the computers for her own interests and did not follow her daughters' engagement with the software. One daughter was not allowed access to the lab for two weeks after she searched for improper material on the Internet. They have not been back since the evening the daughter lost her Internet use privilege though they have been involved in other activities at the school. They have continued participating in the Lightspan Achieve Now home program.

Family Four. Family number four was comprised of a fourth-grade special education student and his mother. They attended on November 28, and February 6. The mother responded positively to the child's involvement in the software program. She watched his use of the Lightspan technology and helped him when he needed it. She told me that they would be getting a computer for Christmas, but that she did not know much about them yet. Her son seemed to enjoy using the programs although
several selections he made were too difficult for him. After they got the computer, they participated in the Lightspan Achieve Now program in their home but have come to the lab once since they got the PlayStation. They participated in two Lightspan family nights.

**Family Five.** A third-grade boy was accompanied by his grandfather on December 2 & 5 and February 1 & 6. The boy was eager to be in the computer lab and interacted with his peers already present at the center. His grandfather was reluctant to become involved with the computers but seemed to enjoy cheering his grandson on from the side and seemed to enjoy his grandson's activity. He originally said he was too old to learn about computers but, at a later date, I was able to encourage him to search on the Internet. He continued to be positive about the Lightspan lab experience and thought his grandson had made gains. They began to participate in the Lightspan Achieve Now home program. They have not been back to the lab since receiving the PlayStation. However, they have participated in two Lightspan family nights.

**Family Six.** This family came once on December 12. A fifth-grade boy and third-grade girl came with their father. The father played some of the computer games and helped with his children with some of the items. They began to participate in the Lightspan Achieve Now home program and in Lightspan family nights.

**Family Seven.** A fourth-grade boy, third-grade girl, and their mother came as the seventh family. They attended the lab on December 12, January 23, and February 1 & 20. Both students seemed competent in using the computer program. The mother did not sit at a computer but sat behind her two children and gave positive feedback and teaching helps to them. They did not have a computer at home. On the following nights, other family members accompanied them. They began participating in the Lightspan Achieve Now home program. They have come to the lab twice since they
got the PlayStation and have participated in Lightspan family nights and three make-and-take activity nights.

**Family Eight.** This family attended the most night lab sessions. They came on five occasions: December 12, January 4, February 1 & 20, and March 12. Also, this family was most regular in attendance. The mother brought her third-grade and first-grade sons and a kindergarten daughter. The first grader and kindergartner had limited attention spans for the software program and spent more time drawing on paper and the white board. The mother offered some assistance to the younger children, but they were not engaged in any one activity for long. She gave most of her attention to the third-grade boy who diligently worked on the program in order to move to the next level. His mother gave him positive comments and feedback on incorrect answers. They did not have a computer at home. When the student from Family Five arrived, the third-grade students from both families worked together on the same software. Family Five's grandfather encouraged them from the sidelines. The mother in Family Eight also brought three children of a neighbor's family to the lab on some evenings. This family has participated in three make-and-take sessions since attending the lab and have come to two Lightspan family nights. Even though they participated in the Lightspan Achieve Now home program, they continued to attend the evening lab time.

**Family Nine.** The father of this family brought two of his three girls to the lab on January 9. He observed his daughters as they interacted with the computers. They had a computer at home and a school-provided PlayStation. The second grader was having difficulty reading so she selected a "Liquid Books" program to work on, which tells a story and then asks questions about the content. I noticed her eyes were not on the screen as often as they needed to be to track the print. I brought her lack of focus to her attention. The father did little to monitor the children's
activities. The other daughter, the fourth grader, attended to her program. The family has a computer at home as well as a Lightspan PlayStation. They participated in two Lightspan family nights.

**Family Ten.** The father brought his sons on January 23. The younger son, a first grader, received much of the father's attention as he tried to figure out the program. The father then shifted his attention to the older son, a third grader, and worked directly with him to problem solve in an outlining and editing writing program. This family has attended other events at the school. They are not involved in the Lightspan home program.

**Family Eleven.** This family was the most rewarding, and yet, most challenging family to visit the computer lab. They attended the lab on February 20 and March 12 & 17. The oldest daughter is in kindergarten and had had limited experience in her classroom with computers. Her mother, who knew little English, also brought the two-year old daughter. I was prompted to bring educational toys to the lab to keep younger guests occupied. The mother and I were able to communicate through the daughter or by our mutual limited use of each other's language. The husband and daughter in this family act as translators of notes and conversations. The family made two return trips to the computer lab and attended a P.T.O. meeting following the computer lab visit. This mother interacted with her children as they used the software. Even the two-year old spent some limited time on the computer imitating the big sister. Their children are too young to participate in the Lightspan Achieve Now program at the school. They attended one make-and-take session.

**Family Twelve.** This family attended the Lightspan lab on February 20 and March 12. The mother brought her kindergarten daughter and a two-year old child. The school-age daughter has been absent frequently from school on Fridays when her class goes to
computer lab, so she has had limited exposure to Lightspan software. The mother tried to help her work on the program, but also spent a great deal of time monitoring the younger child and talking to other parents in the room. I later learned that the mother has a limited reading ability so I needed to try to connect this family to the neighboring adult learning center. The daughter is too young to participate in the Lightspan home program.

Conclusions

This project was guided by three research questions. Observations were made throughout the project's implementation. Participant information was analyzed for issues and trends.

1) How do families interact while using educational software in the computer lab setting? As I made observations of the participant's interactions, I noticed different styles of interactions among parents and children. Those who did not have computers in their homes, or those who did not know how to use them, seemed slightly more positive in their responses to their children. Perhaps they wanted their children to learn how to use computers. They tended to sit slightly behind their students and observed the screen and seemed to distance themselves from the computer. In most cases, mothers/women who came seemed to attend to their children's individual learning needs more than the men. I would like to see more fathers and grandfathers come with the students. At this point, more mothers have brought their children. A positive experience in the lab led to return visits by some families.

2) Was the use of the computer lab by families an enjoyable experience? The lab time appeared enjoyable for most families. Most parents indicated that they thought that the extra time and the type of product used positively affected their children's learning. The parents of Family Three expressed a negative comment. This reaction seemed to be related to the participants' personal problems rather than to the lab. In fact, this family
made five visits to the lab during the study. The mother was mildly proficient in computer use and seemed eager to learn and try new things. I plan to model for her the types of interactions she could use with her daughters to support them in using computers.

In the future, I plan to post rules for use of the family lab and to present a survey to the families to fill out when they visit the lab indicating their level of satisfaction with the program. I also hope to see some of these parents become involved in volunteering for other school activities. The mother from Family Two did sign up to be a literacy volunteer. I think that the grandfather from Family Five could be convinced to become a volunteer.

3) Does participation in the computer lab increase involvement in other areas? One hundred percent of the families involved in the computer lab have been involved in other school family programs this year. It could be argued that these families would have been involved at school anyway, regardless of new opportunities. However, many of the families were at-risk, but they all cared about their children. They all want their children to do well at school. It is important to continue to value these basic facts as the common foundation. I hope that they found the open computer lab times to be an inviting experience that supported their parental efforts. Perhaps this comfort level will transfer to other areas of school involvement.

To improve this project, a non-participant observer could be used. When I am interacting with a family, it is hard to monitor others. The type of anecdotal records kept by a non-participant observer could be used to help other school districts decide whether or not to purchase Lightspan software or similar materials and to hold night sessions for families. I think continued study might reveal the most effective strategies for positive computer lab interactions. These strategies could be modeled for parents at
future sessions. In the night sessions of this study, some parents interacted with their children, others criticized their children's every mistake, and some cheered by the sidelines. I will seek to build even more positive interactions at the computer lab sessions and will continue to hope that these evening sessions will build relationships, and make more home-school connections. We will be choosing a night to have a translator at the lab to help create a more inviting atmosphere for the Spanish-speaking families. I have also recommended to our principal that if funds allow, we should keep the library open for access by parents during computer lab times. Families could move between the lab and library working on various literacy activities.

The power of a story is magical to all who have the opportunity to hear/read it. We need to assume that parents, with proper support, are eager to help create the "reading fairy tale" for their children. We need to treat caregivers as individuals with stories to tell, rather than vessels to be filled with the school's knowledge and activities. We do not know what knowledge they and their children bring to school. The schools need to become community centers for these challenged families. Schools can support family literacy by supplying parent resource lending rooms and offering experiences with technology. Our communities will all be better when the Goals 2000 fairy tale is written as non-fiction...All adult Americans will be literate and will possess the knowledge and skills that support them in competing in a global economy and exercising the rights and responsibilities of citizenship (as cited in Askov, 1991)... and will read happily ever after.
Bibliography


