Evaluation of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo

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EXECUTIVE SUMMARY

This report is an evaluation of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo. For this study, Public Broadcasting Service (PBS) Ready To Learn contracted with WestEd to evaluate the use of cellular phones as a medium for delivering Ready To Learn content to parents and families. The PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo was a collaborative effort among the U.S. Department of Education, PBS Ready To Learn, Sesame Workshop, WestEd, Sprint, and GoTV Networks.

This evaluation was designed to: (a) assess the level of acceptance of cellular phones as a medium for delivering PBS Ready To Learn content among parents of preschool children; (b) identify the ways parents use their cellular phones to receive PBS Ready To Learn content and their patterns of use; and (c) assess the effects of the intervention and differences between participants living in households at or below the poverty line (lower-income) and those living above the poverty line (higher-income). The study draws upon prior research about PBS Ready To Learn children’s programs and upon WestEd’s experience conducting large, multiple-site, national evaluations of educational programs.

Research Method and the Intervention

We used multiple methods to evaluate the use of cellular phones as a medium for delivering PBS Ready To Learn content. We addressed the purposes of the evaluation with preintervention and postintervention surveys of participants; an automated system that tracked participants’ streaming of literacy content to their cell phones; and postintervention group interviews with participants.

Each participant was required to stream two types of footage: literacy tips, intended for parents, and letter video clips, intended for preschoolers. Literacy tips gave parents suggestions on how to incorporate letter recognition and letter sound activities into their everyday routines with their children. In the letter video clips, Elmo introduced the letter of the day, and then a Sesame Street clip focused on that letter played. One literacy tip and one letter video clip (together called a letter set) was developed for each letter of the alphabet. Participants were expected to stream a new letter set three times a week, each set on a different day. GoTV Networks sent reminder text messages to participants’ cell phones on Mondays, Wednesdays, Fridays, and Saturdays at 7 a.m. for the duration of the study to remind participants to stream the letter sets.

Letter sets were made available to participants in alphabetical order, with four letter sets introduced during each of the first two weeks, and three letter sets made available in each of the
remaining six weeks of the study. If participants fulfilled the study’s requirements, by the end of
the eight weeks, all of the children should have seen a letter video clip for each letter of the
alphabet, and parents had 26 corresponding literacy tips available to them. In addition, as letter
video clips became available, they were added to a separate page called the letter library, which
eventually contained all of the letter video clips. Participants and their children could access and
review at their convenience letter video clips from previous weeks.

Study Participants

Parents of preschoolers were recruited to participate in three California locales: Los
Angeles, Oakland, and Fresno. Eighty participants took part in the study, but one was dropped
from the analyses because of incomplete data. Of these participants, 35 (44.3 percent) were
living in households at or below the poverty line\(^1\) (lower-income) and 44 (55.7 percent) were
living above the poverty line (higher-income). Participants’ children were three or four years old.

Streaming Patterns

Streaming of individual letters decreased during the course of the intervention. Streaming
patterns were related to availability for most letters. That is, letters became available in
alphabetical order, and letters at the start of the alphabet tended to have more frequent streaming.
Weekly streaming data indicate that, although previously streamed letters were available in the
letter library, viewing was a weekly activity with the letters introduced each week being the
letters streamed most frequently during that week.

Participants collectively averaged 851 streams per week. There appears to have been a
novelty effect the first week, which had an extremely high rate (1,350 streams). However,
streaming rates remained high throughout the intervention. If each participant had streamed the
minimum requirements, one would have expected 240 streams per week (80 participants x 3
times per week). In fact, even the lowest streaming rate, which occurred during week eight,
exceeded these expectations with 526 streams.

Participants from lower-income households streamed an individual average of 11.26 letter
video clips per week and 3.53 literacy tips per week. Participants in households above the
poverty level streamed an individual average of 11.20 letter video clips and 2.77 literacy tips per
week.

\(^1\) Classified as parents eligible for subsidized child care based on their annual yearly income according to the
California Department of Education Income Ceilings for the State Preschool Program.
Findings

• Lower-income participants were more likely to be non-White, younger, unmarried, and less educated than participants living in households above the poverty line. They also were less likely to be stay-at-home parents.

• Participants reported statistically significant changes from preintervention to postintervention on activities targeted by the intervention. Both groups reported asking their children more frequently to look for letters on signs or on printed materials around the house. The lower-income group also reported asking their children more frequently to find objects around the house that start with a certain letter. Participants from lower-income households were more likely to report they coviewed the letter video clips with their children.

• Almost all participants reported that their participating children found the letter video clips easy to view and quickly mastered the cell phone buttons to replay the videos.

• More than three-fourths of participants from each group believed to a good extent or great extent a cell phone used in this way can be an effective learning tool. An additional 20 percent believed so to a small extent.

• Among lower-income participants, more than three-fourths believed to a good extent or great extent that the letter video clips affected their children’s letter knowledge. Among participants living above the poverty line, approximately half believed so. When asked specifically about the number of letters participants’ children knew, both groups indicated an increase from pre- to postintervention, and this difference was statistically significant for participants living above the poverty line.

• Participants in both groups reported statistically significant change from pre- to postintervention in their children’s knowledge of the Alphabet Song. Because the song was not included as part of the intervention content, this finding is evidence of a postintervention increase in general letter knowledge. In the group interviews, parents attributed this increase to the intervention’s ability to improve children’s understanding of what an alphabet letter is. According to participants, their children could make a connection between the letters presented in Letter Videos and the letter names they were singing.

• Children in the lower-income households were more likely to ask to view the streamed letter video clips. Parents in these households were less likely to schedule viewing for specific times of the day. They were also more likely to view the letter video clips at home.
• A greater proportion of participants living above the poverty line used the letter library than the lower-income group. However, among those who accessed the letter library, lower-income participants accessed it more frequently.

• Letter video clip streaming rates were extremely high for both groups. Participants from both groups streamed the literacy tips at a far lower rate. They found these tips to be repetitive and overly-simple.

• Most participants were enthusiastic in group interviews about the technology and mode of information delivery. They genuinely wanted to be involved in their children’s early literacy development, and they viewed this model as an effective means to support their efforts. Respondents reported that because they always had their cell phones with them they found it extremely easy to fit literacy activities into their daily routine. Finally, according to the parents, children enjoyed and benefited from the program.

• Participants’ suggestions for program improvement primarily addressed ways to expand the program: increased interactivity; explicit links to PBS Ready To Learn television and Internet content; and an expanded curriculum allowing more Sesame Street characters to introduce numbers, colors, shapes, and upper and lower-case letters.

Conclusions

Based on the findings of this study, we conclude that cell phones have the potential to be an effective medium for delivering PBS Ready To Learn content to parents of preschool children and to the children, themselves.

Participants found the intervention to be a positive experience, especially for their children. They reacted enthusiastically to receiving early literacy content via cell phone. Most importantly, participants reported that their children enjoyed and benefited from the program.

Child participants, for the most part, were eager and excited to view the letter video clips. They frequently requested to view the videos. Some parents reported that each time the phone rang, their children came running, hoping the call was from Elmo.

Despite these positive findings, participants experienced some difficulties using cell phones as directed by the study. For example, parents would like the video to load more quickly. These types of technical drawbacks are beyond the control of the content provider. The limitations of the cell phone batteries also pose problems: streaming video drains the battery quickly, and parents are concerned about conserving power for incoming calls. Finally, parents remain somewhat concerned that their children may damage the cell phone.
According to participants, content should be improved if the intervention is to be scaled for release to a larger audience. Participants requested a greater variety of letter video clips, more relevant parent literacy tips, and an expanded curriculum.

This study demonstrated the value of using cell phones to introduce educational content. We recommend future research, using a randomized experimental design, to examine the effects of this type of intervention.
INTRODUCTION

This report is an evaluation of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo. Public Broadcasting Service (PBS) Ready To Learn contracted with WestEd to evaluate the use of cellular phones as a medium for delivering Ready To Learn content to parents and families. The PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo was a collaborative effort among the U.S. Department of Education, PBS Ready To Learn, Sesame Workshop, WestEd, Sprint, and GoTV Networks.

This evaluation was designed to: (a) assess the level of acceptance of cellular phones as a medium for delivering PBS Ready To Learn content among parents of preschool children; (b) identify the ways parents use their cellular phones to receive PBS Ready To Learn content and their patterns of use; and (c) assess the perceived effects among participants of the intervention and differences between participants living in households at or below the poverty line (lower-income) and those living above the poverty line (higher-income). The study draws upon prior research about PBS Ready To Learn children’s programs and WestEd’s experience conducting large, multiple-site, national evaluations of educational programs.

We used multiple methods to evaluate the use of cellular phones as a medium for delivering PBS Ready To Learn content. Parents were recruited to participate in three California locales: Los Angeles, Oakland, and Fresno. We addressed the purposes of the evaluation with preintervention and postintervention surveys of participants; an automated system that tracked participant’s streaming of literacy content to their cell phones; and postintervention group interviews with participants.

The Structure of the Report

We open the report with a background section that includes a brief history of PBS Ready To Learn followed by a description of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo. Next we present a detailed description of our recruitment procedures. This is followed by descriptions of the intervention and the data collection instruments and methods. We then present the results of the study including demographics, viewing patterns, and perceived effects on children and parents. We close with conclusions, including recommendations for scaling up for a larger audience and future research.
BACKGROUND

In this section we present background information about Ready To Learn, prior studies conducted by WestEd for PBS, and the design of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo.

History of Ready To Learn

With the goal of helping to prepare America’s children to succeed in school, the Corporation for Public Broadcasting (CPB), the Public Broadcasting Service (PBS), and the U.S. Congress created the Ready To Learn service in 1992. Two successive Ready To Learn grants were funded by Congress and awarded through the U.S. Department of Education. The first Ready To Learn grant was awarded from 1995-2000 to CPB. In September 2000, the U.S. Department of Education entered into a five-year cooperative agreement with PBS. The agreement contained new priorities and responsibilities: ensuring that all children begin school “Ready To Learn” and succeed in school.

On-air, online, and print resources designed to help parents and early childhood educators prepare children for success in school were at the heart of the service PBS Ready To Learn provided. Central to the PBS Ready To Learn service was a full day of non-violent, commercial-free, educational children’s television programs broadcast free-of-charge to every American household. Among the daily broadcasts were some of the most popular, award-winning programs currently available on television including Arthur, Between the Lions, Clifford the Big Red Dog, Dragon Tales, Reading Rainbow, Sesame Street, Postcards from Buster, and Maya and Miguel.

In addition to these televised children’s educational programs, Ready To Learn provided extensive outreach services to parents, preschool educators, and other professionals. The outreach program included parent and educator workshops, websites, children’s books, and parent magazines. The outreach service was designed to enhance children’s cognitive and social skills by building on, and increasing the potential of, PBS Ready To Learn children’s television programs.

PBS Ready To Learn provided extensive outreach services to parents, preschool educators, and other professionals. The Ready To Learn service extended the value and impact of educational children’s television by introducing and reinforcing the concept of the Learning Triangle: View, Read, Do. Adults were taught to engage their children in: (a) viewing a PBS Ready To Learn program, (b) reading a storybook related to a theme of the show, and (c) doing an activity related to that same theme. The PBS Ready To Learn service also developed two extensive websites: www.pbs.org/parents with information for parents along with activities and
In 2005, the U.S. Department of Education awarded two programming grants and one outreach grant in support of a Ready To Learn Initiative that focuses on scientifically based reading research applied to content for the purpose of improving literacy skills for children of low-income families. CPB and PBS received one programming award to deliver literacy content with production partners for Sesame Street and Between The Lions along with new content, including Super Why!, Martha Speaks, and The New Electric Company. An additional programming grant was made to WTTW for a new PBS series, Word World. Extensive original research is being conducted for the Ready To Learn Initiative, including testing the extent to which the PBS Ready To Learn content is teaching literacy skills effectively.

The U.S. Department of Education also awarded an outreach grant to CPB and PBS. As part of this outreach plan, 20 pilot markets throughout the country will participate in social marketing and outreach interventions with literacy partners in communities and with PBS local stations. Using new technologies to deliver this literacy content is a goal for this new chapter of Ready To Learn. This new grant is a five-year project and will allow research directly with children of low-income families to instruct how this literacy content is developed and distributed.

Overview of the Study

The current study, the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo, builds on three prior studies conducted by WestEd to collect federal performance indicator data for PBS Ready To Learn since 2003. These three studies included a Primary Viewing Study, an Enhanced Training Study, and a Comprehensive Treatment Study.

Prior PBS Ready To Learn Studies Conducted by WestEd

In response to the federal performance indicators for PBS Ready To Learn, we designed the Primary Viewing Study to assess (a) the effects of the PBS Ready To Learn service on children in classrooms where the educator implemented the Learning Triangle and (b) the effects of workshop attendance on parents’ and educators’ use of the Learning Triangle with their children and children in their care. We used a quasi-experimental design for the classroom study with a treatment group of child care center classrooms drawn from a population of educators who attended a PBS Ready To Learn workshop and two comparison groups of child care center classrooms randomly assigned (at the center level) to either a viewing (with no workshop) or
nonviewing condition. We assessed the broader effects of workshop attendance with a survey of a stratified random sample of educator and parent workshop attendees.

Based on findings from the first year of the Primary Viewing Study, PBS Ready To Learn developed an Enhanced Training program in which educators received more intense preparation and ongoing support to implement the Learning Triangle in their classrooms. The Enhanced Training Study, implemented during the second year, added to the Primary Viewing Study a cohort of child care center educators who received a full day of training that prepared them to implement the Learning Triangle, support materials, and follow-up support from their local PBS Ready To Learn outreach coordinator.

The Comprehensive Treatment Study (CTS) was designed to assess further refinements and additions to the PBS Ready To Learn model. In addition to the improvements provided to the Enhanced Training group (described above), child care center educators received a more comprehensive curriculum to implement in their classrooms, books for each child to take home and for teachers to use in their classrooms, suggested activities and reading to complete the Read and Do components of the Learning Triangle, and a computer-based component and computer. Educators also received structured content support, provided in the form of feedback about classroom practices and intervention implementation from structured observations conducted by PBS Ready To Learn staff.

**Overview of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo**

The PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo intervention ran from May to July 2006, and assessed the use of cellular phones as a medium for delivering Ready To Learn content to parents and families. The intervention consisted of literacy tips for parents and letter video clips from the Sesame Street archives, introduced by Elmo, for children. Each letter of the alphabet was included in the intervention, and they were introduced in alphabetical order, three to four letters per week. Once introduced, parents could access any letter video clip from a letter library for their children to watch. Parents were asked to listen to the literacy tip and stream new letter video clips for their children to watch at least three times each week for the eight weeks of the intervention.

The evaluation was designed to:

- assess the level of acceptance of cellular phones as a medium for delivering PBS Ready To Learn content among parents of preschool children;
• identify the ways parents use their cellular phones to receive PBS Ready To Learn content and patterns of use; and

• assess the perceived effects of the intervention and differences between participants living in households at or below the poverty line (in poverty) and those living above the poverty line (not in poverty).

Three locales were identified for the study. All were in California to reduce the costs of the study while ensuring a diverse population of participants. The three locales selected included areas with high levels of families living below the poverty line. The locales also included urban, suburban, and rural areas. The identified locales were Fresno, Oakland, and Los Angeles.

We collected data from participants at two points in time (Figure 1, below). We surveyed participants before and after the intervention. We worked with PBS Ready To Learn and Sesame Workshop to ensure all instruments addressed the concerns of the funding agency. Participants completed surveys that addressed: (a) their current levels of knowledge of early literacy issues; (b) use of cellular technology and likelihood of future use; (c) use of the information provided by PBS Ready To Learn; and (d) effects of the intervention. The survey instrument also was used at pretest to collect demographic data about the parent, household, and children.

During the intervention, streaming was tracked by GoTV Networks, the application provider. This data included the number of times each literacy tip and letter video clip was streamed by each participant, and when it was viewed.

Postintervention, we conducted group interviews with participating parents to explicate the survey findings. These group interviews addressed issues related to: (a) comfort with the technology; (b) barriers to access and use of the streamed content; (c) effects of the intervention; and (d) other feedback about the technology and content.

Figure 1
Overview of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo
METHOD

In this section we describe the intervention, present our recruitment methods, and discuss the data collection instruments and methods.

Intervention

In this section, we describe the intervention the participants received. We first describe the treatment, which includes descriptions of the streamed content, cell phone, and the study requirements. Following, we discuss the training sessions, which kicked off the study for the participants. We close with a brief presentation of the postintervention group interviews.

Treatment

The treatment in this study addressed parent and child use of the cell phone to support children’s early literacy. In this section we describe the letter video clips, study requirements, and phone and services.

The Letter Video Clips

The intervention consisted of letter video clips and literacy tips streamed to the participants’ cell phones via an Internet site specifically designed for cell phones. The site was hosted and maintained on GoTV Networks’ servers. GoTV Networks had to encode the video to work on the Sprint Power Vision network.

Each participant was required to stream two types of footage: literacy tips, intended for parents, and letter video clips, intended for preschoolers. One literacy tip and one letter video clip (together called a letter set) was developed for each letter of the alphabet. Each literacy tip was hosted by Maria (a longtime personality on Sesame Street). The literacy tips gave parents suggestions on how to incorporate letter recognition and letter sound activities into their everyday routines with their children. For example, parents were given the tip to identify items that began with the letter of the day while shopping in the supermarket.

In the letter video clips, Elmo introduced the letter of the day and said several words that begin with the letter. Immediately following was a video clip, taken from the Sesame Street program archives, which focused on the letter of the day. These clips varied in length (from one minute up to approximately three minutes) and content. There were 26 letter video clips, one for

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1 Summaries of literacy tips and letter video clips can be found in Appendix A.
each letter of the alphabet, and participants were asked to stream three new letters each week. Some letter video clips were animated and others were live action with Muppets and/or children. Many included music and songs. Once the letter video clip was removed from the current week’s menu, it also was made available in a letter library, which parents and children could access any time during the remainder of the intervention period.

Letter sets were made available to participants in alphabetical order, with four letter sets introduced during each of the first two weeks, and three letter sets made available in each of the remaining six weeks of the study. If participants fulfilled the study’s requirements, by the end of the eight weeks, all of the children should have seen a letter video clip for each letter of the alphabet, and parents had 26 corresponding literacy tips available to them.

GoTV Networks sent reminder text messages to participants’ cell phones on Mondays, Wednesdays, Fridays, and Saturdays at 7 a.m. for the duration of the study to remind participants to stream the letter sets.

Study Requirements

The requirements of the study were clearly outlined in a Memorandum of Understanding (MoU), which covered the research and viewing responsibilities of the participant and partner agencies (Appendix B). Participants were required to attend a training session, provide WestEd with necessary demographic information, attend a group interview at the completion of the study, and complete pre- and postintervention surveys. Participants were required to stream and view the letter video clips a minimum of three times per week during the eight week study and share these clips with their children. All other literacy activities suggested during the training and in the streamed literacy tips were only recommendations.

Each participant who completed the requirements of the study was entitled to remuneration, which was described during the recruitment process and at the training session. Participants who were in compliance with study requirements received $50.00 and were permitted to keep the Sprint Power Vision Phone A900 (described below) at no cost. Participants also received the Power Vision service at no charge from Sprint. The checks were distributed during the postintervention group interviews. There were circumstances in which participants received the remuneration without completely fulfilling the requirements of the study. A few participants incurred damage to their phone during the intervention period\(^2\). Because these participants were steady implementers prior to the incident, we mailed them remuneration checks to show appreciation for their effort. There were also three participants who were unable to

\(^2\) None of the damage was the result of children’s actions. For example, a parent dropped her phone in water when jumping in to grab a child who wandered into a pond.
attend the group interview. These participants, who were also strong implementers, were given the option to complete a telephone interview about their experiences and mail in a completed post-survey to qualify for the remuneration. Two completed the postintervention survey, and one of these participants also was interviewed by phone.

*Phone and Services*

PBS *Ready To Learn* negotiated a partnership with Sprint to conduct the study, therefore all participants had to be current Sprint customers. For these participants to stream and view the intervention content, their cell phones needed to have the capacity to accept text messages, access the Internet, and be able to display video streamed over the Sprint Power Vision network. To ensure participants’ phones could do so, participants received a Sprint Power Vision Phone A900, which has text messaging capability and built-in 3G wireless technology. In addition, the phone has a 1.8” X 1.4” color display screen, which we believed would allow the children to view the letter video clips easily. Participants also were subscribed to text messaging and the Sprint Power Vision service, which provides Internet access for video streaming on wireless phones. These services were necessary to receive the reminder text messages, which alerted participants to the availability of new letters, and view the letter video clips and Maria literacy tips.

*Training*

The training sessions were conducted during the week of May 8, 2006. In this section, we describe the scheduling of the training sessions, followed by the content of the sessions.

*Scheduling*

Training sessions were conducted the week of May 8, 2006, in the three California study locales: Los Angeles (Monday thru Thursday), Oakland (Thursday, Friday, and the following Monday), and Fresno (Thursday and Friday). In Los Angeles, we held the majority of our training sessions in our WestEd office in Los Alamitos. This was a convenient site because it is located at the westernmost point of Orange County, bordering Los Angeles County (where many participants resided). In addition, as a convenience to our Los Angeles participants, we also held training sessions at one of our participating child care center recruitment sites in Compton. The sessions in northern California were held entirely at our WestEd office in Oakland, a site convenient for all participants. In Fresno, we scheduled the sessions at a child care center.
recruitment site, which is on a college campus, centrally located, and could accommodate our meeting space and parking needs.

We initially estimated the content of the sessions would take approximately two hours; therefore, we scheduled sessions every few hours beginning around 9:00 a.m. and offering the last session around 7:00 p.m., to accommodate participants working full-time. WestEd researchers called all of the participants to schedule sessions for them to attend. We then followed up by mailing each participant a packet (Appendix B) containing a letter further explaining the study, describing the training, identifying what they needed to bring, and confirming when participants were scheduled to arrive. This packet also contained a map and directions to their training site and parking instructions.³

On training days, signs were posted directing participants to the training rooms, where refreshments and snacks were offered. Each participant was given a training packet (Appendix B) that contained a welcome letter, the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo brochure, the training session agenda, the pre-survey, the Memorandum of Understanding, a demographic information sheet to be completed, a remuneration information form, cell phone activation instructions, GoTV Networks registration instructions, and instructions on how to bookmark the link for the Internet address for viewing videos. The WestEd project director’s business card also was included.

Training Content

Information delivery during each training session was a cooperative effort among staff of WestEd, PBS Ready To Learn, and Sesame Workshop. Representatives from each partner agency were available at each training session. Once all the participants arrived, a WestEd researcher began the session by introducing the project partners and reviewing the study expectations, which included the participants reading and signing the MoU.

Next, the researcher began a guided survey process to help participants complete the preintervention survey. This involved reading each survey question and the available response options aloud while participants marked their answers on their own copy of the survey. This guided survey process ensured that all participants understood the questions and response options, and completed the entire survey. Once participants completed their surveys, they began the activation process that transferred their Sprint service to their new phones.

³ Southern California participants did not have to pay for parking; WestEd pre-purchased parking validation stickers that were distributed to Oakland participants upon their arrival; and Fresno participants were sent $2 in cash prior to the event to cover their parking costs.
After the survey, a Sesame Workshop representative led a discussion entitled, “Literacy and Your Child,” which shared information about the participant’s role in expanding their child’s early literacy (Appendix B). It included ideas and suggestions about how to teach children about letters. In addition, the Sesame Workshop representative reviewed several sections of the Learning Letters with Elmo pamphlet. This pamphlet was a full color, 8.5” x 11”, tri-fold card stock that provided an introduction to the PBS Ready to Learn Cell Phone Study: Learning Letters with Elmo, details about what to expect during the study (including information about the letter library), ideas for activities to support children’s literacy development through everyday routines, directions for accessing text messages and viewing the Elmo letter video clips and Maria literacy tips on the Sprint Power Vision A900 phone, and a Letters Checklist area in which participants could check off and write in the date of each Letter Day as they completed it.

Next, a PBS Ready To Learn representative began a tutorial on how to use the new cell phone. This tutorial included information about the phone and commonly used buttons, as well as how to view and download the text messages, parent literacy tips, and Elmo letter video clips.

Finally, participants completed and handed in a demographic data sheet. Participants then were introduced to their study liaison; a WestEd researcher they could call directly with any questions or problems that might arise. After this, remaining questions were answered and the training session ended.

**Recruitment**

In this section, we present the criteria developed for participation in the study and our recruitment methods. In addition, we identify limitations to recruiting participants who met the initial criteria and subsequent changes to our recruitment strategies and criteria based on these limitations.

PBS Ready To Learn, Sesame Workshop, and WestEd developed the following initial criteria, in consultation with the U.S. Department of Education, for participants to participate in the study: (a) English speaking, (b) parent or caregiver of a three- or four-year-old child, and (c) low-income. The team identified these criteria based on a number of factors. First, the letter video clips and literacy tips were available only in English, thus precluding any non-English speaking participants from participation. Second, parents or caregivers of three- to four-year-olds were chosen because most children in this age group are in the pre-literacy phase of development and the target population for the planned literacy content. We also determined that the child must remain age three or four for the duration of the study. Finally, the initial criteria for participation included the requirement that parents qualified as lower-income, which was classified as parents…
eligible for subsidized child care based on their annual yearly income according to the California Department of Education Income Ceilings for the State Preschool Program.

After lengthy research and discussions with many possible wireless service providers, PBS Ready To Learn chose to use the Sprint network for this study. Most providers either did not have a service with video streaming capabilities in place yet or they did not have the technical infrastructure in place to support the requirements of this project. The partners in this project had previously agreed that it was best for participants to be customers of whatever carrier was chosen, so that participants would be able to use their existing phone numbers on the phone used for this study and provide continuity with the participants’ existing cell phone contracts. That way, the test phone was the participant's primary phone rather than a secondary electronic device that participants would be required to carry around solely for the purposes of this study. That being the case, once the Sprint partnership was established another criterion for participation was added: participants must be monthly Sprint wireless customers. To encourage participation, and ensure parents and children had the capacity to view the streamed content, each parent received a new cellular phone and $50 for their participation, and the Sprint Power Vision service free of charge for the duration of the intervention.

WestEd staff began recruiting by identifying the best areas in which to recruit. In choosing locations, we focused on areas with high concentrations of lower-income households and Sprint subscribers. Sprint confirmed the targeted zip codes within California included large numbers of their clients, specifically in Fresno and Los Angeles. Then, we obtained lists of child care centers in the Fresno and Los Angeles areas. Through the child care centers, we planned to reach a large number of parents of three- and four-year-old children. We used multiple strategies for identifying these child care centers, including public Internet directories and California state child care center registries. Next, using a screening protocol developed for the project (Appendix C), WestEd staff contacted child care centers to determine their willingness and ability to assist us in our recruitment efforts. We obtained approval from center directors to send them flyers and posters with information about the study (Appendix C), and to visit the centers to talk to parents. At some child care centers we were able to work with center directors to organize parent information meetings specifically for the study. At others, we took advantage of regularly scheduled parent meetings or greeted parents as they dropped off and picked up their children. During these meetings, WestEd staff presented information about the study, signed up interested parents who met the criteria, and answered questions.

Once in the field, we encountered obstacles to recruiting parents from the initially identified population. The main limitation discovered was that most lower-income parents did not have a cell phone; and if they did, they typically were on a prepaid service plan. To address these limitations, WestEd recommended to PBS Ready To Learn and the U.S. Department of
Education an expansion of the recruitment criteria. First, WestEd proposed to expand the northern California search by adding the Oakland area. Oakland has a large number of lower-income, English-speaking neighborhoods. By including parents from Oakland in the sample, we hoped to recruit a large proportion of lower-income parents. Second, WestEd proposed to begin recruiting in areas of southern California that were not necessarily lower-income. By sacrificing the lower-income criteria for a portion of the sample, we were able to assess differences between lower-income and other households. Third, we tapped into online resources such as community discussion boards to disseminate information about the study to more parents. This resulted in a number of parents contacting us to participate.

These changes to our recruitment methods and criteria allowed us to meet our recruitment goals. By adding the Oakland area, including parents who were not lower-income, and posting information about the study on community discussion boards, we overcame the obstacles experienced and met our recruitment goal of 80 participants from among the three locales.

When we reached our recruitment goal, we sent a letter to all the child care centers (Appendix C) that assisted in our recruitment efforts asking center staff to remove and discard all study posters and flyers. As remuneration for assisting our recruitment efforts, each child care center received four Sesame Street books to add to its library.

**Data Collection Instruments and Methods**

In this section we describe the data collection instruments and methods used to collect three types of data: (a) participant’s viewing patterns; (b) demographic and other descriptive data about participants and children; and (c) study effects. We open with a discussion of the systems we used to track and monitor participants’ viewing patterns. We then present data collection from parent participants, including information about study effects.

**Tracking system**

In this section, we will describe the methods we employed to monitor participant adherence to study requirements. Specifically, we present the methods used to track which letter video clips were viewed, when clips were viewed, and viewing frequency. In addition, we describe the efforts we undertook to encourage participants to maintain the study’s viewing requirements.

WestEd, Sesame Workshop, and GoTV Networks collaborated to track use among study participants. WestEd staff received weekly usage reports from Sesame Workshop that had been generated by GoTV Networks. The usage reports were received via Email in Microsoft Excel
format. WestEd researchers disaggregated and reaggregated the data by individual participant into a WestEd created database.

The database included several types of information for tracking usage effectively. Participant identification information such as names, regions (northern and southern California) and telephone numbers were used as primary variables. Maria literacy tip and Elmo letter video clip viewing data were tracked using three variables: number of days, number of times, and time of day each segment was viewed.

The target audience for the Maria literacy tips was the parent. While parents were encouraged to view the Maria literacy tips there were no viewing requirements in the study. Nonetheless, use data for the Maria literacy tips was tracked and discussed during the postintervention group interviews.

Using this system, WestEd researchers were able to identify early in the study participants who were not viewing the minimum number of letter video clips. Participants not viewing any letter video clips during the week were flagged as non-implementers while those only partially meeting the minimum requirements were flagged as weak implementers. By week two, we identified repeat non-implementers and weak implementers. Non- and weak implementers received telephone calls from their WestEd liaison reminding them of their commitment to the study (see further discussion in Dosage, below).

WestEd research liaisons also used these contacts to ensure the service was functioning properly. Liaisons discovered several participants had not registered properly with GoTV Networks, which prevented them from accessing the service and they were not included in the weekly tracking reports. We were able to correct these problems by re-registering each problem participant with GoTV Networks. Thereafter, we tracked their use without further issues. Additionally, Sprint network outages, cancellations of Power Vision for some participants, and problems with defective telephones were identified through communication with study participants.

In an effort to prevent non- and weak implementation, we established points throughout the study at which all participants received notices in the mail to encourage compliance. Week three was the first point at which letters were mailed to all participants reminding them of their commitment to the study (Appendix D). Letters encouraged consistent viewing and reinforced viewing on multiple days. Week five was the second point selected for a reminder, this time in the form of postcards mailed to all participants’ homes (Appendix D). Similar to the letter sent during week three, the postcards outlined the study requirements and encouraged participants to call if they had any questions.

WestEd also established a plan for addressing participants who were consistently non- or weak implementers. Compliance calls were made to non- and weak implementers. Calls also
were made to participants not fulfilling other study requirements (e.g., participants who streamed all the letters in a single day). WestEd Evaluation Research staff conducted these motivational telephone calls. On a few occasions, non-implementation was persistent enough to require a telephone conversation with the Project Director. Compliance and encouragement calls resolved many, although not all, of the problems.

**Participant Data**

In this section, we present the data collection instruments and methods used to collect data from parents. Participants completed three forms to provide information in support of the evaluation: demographic questionnaire, preintervention survey, and postintervention survey (Appendices A and E). They also participated in postintervention group interviews.

**Participant Demographic Questionnaire**

To ensure we obtained necessary demographic data, WestEd created a one-page participant questionnaire completed by participants during the training session (Appendix B). It included standard demographic information such as birthdates for parent and child, ethnicity, household size, employment status, and whether the child had a disability. The questionnaire was completed at the end of the training session to avoid participants feeling uncomfortable about answering some of the demographic items.

**Participant Surveys**

We used surveys to collect data from participants. We administered the preintervention survey (Appendix B) at the training session prior to the intervention. We administered the postintervention survey (Appendix E) during the group interview sessions at the conclusion of the intervention period.

The participant surveys were based on the surveys used in prior evaluation studies conducted by WestEd for PBS *Ready To Learn*. Additional items were added to address the specific focus of this study. The surveys collected information about the home literacy environment; viewing patterns of PBS *Ready To Learn* and other children’s television programs; parent-child literacy interactions; and use of PBS *Ready To Learn* websites. The surveys also collected information about cell phone use and some additional demographic information.
Postintervention Group Interviews

Participants participated in postintervention group interviews at the same site as their training. One exception was the Compton site, where the child care center was not able to accommodate the group and the session was held in a private room at a local restaurant. Group interviews were scheduled for afternoon and evening sessions. They lasted two hours. Pairs of WestEd researchers conducted the group interviews.

Participants arrived and were directed to the group interview room. Participants completed the postintervention survey, using the same guided survey procedure as at preintervention. Then, the group interview began. Participants discussed four aspects of the study: (a) the literacy tips for parents; (b) children’s reactions to the Elmo letter video clips; (c) viewing patterns and circumstances; and (d) attitudes toward the use of cell phones for streaming literacy tips and content. Upon completion of the group interviews, participants received their $50 remuneration.
**DOSAGE**

In this section we discuss the amount of intervention, or dosage, participants received during the PBS *Ready To Learn* Cell Phone Study: Learning Letters with Elmo. For this study, dosage refers to the frequency with which participants streamed the letter video clips on the provided cell phone.

**Study Protocol**

Participants were required to stream PBS *Ready To Learn*: Learning Letters with Elmo letter video clips on the provided cell phone three days per week during the eight week study period, and share these clips with their children. Participants were to stream three different letters on three different days each week. GoTV Networks sent reminder text messages to participant’s cell phones each Monday, Wednesday, Friday, and Saturday at 7 a.m. for the duration of the study reminding them to stream the letter video clips and literacy tips.

Letter video clips were introduced in alphabetical order, with four letters made available during the first two weeks and three letters introduced each week thereafter, for the eight-week duration of the study. By the end of the eight week intervention, all alphabet letters were available (Table 1).

**Table 1**

*Schedule of letter video clip availability*

<table>
<thead>
<tr>
<th>Week</th>
<th>Letters</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 15 to 21</td>
<td>A, B, C, D</td>
</tr>
<tr>
<td>May 22 to 28</td>
<td>E, F, G, H</td>
</tr>
<tr>
<td>May 29 to June 4</td>
<td>I, J, K</td>
</tr>
<tr>
<td>June 5 to June 11</td>
<td>L, M, N</td>
</tr>
<tr>
<td>June 12 to June 18</td>
<td>O, P, Q</td>
</tr>
<tr>
<td>June 19 to June 25</td>
<td>R, S, T</td>
</tr>
<tr>
<td>June 26 to July 2</td>
<td>U, V, W</td>
</tr>
<tr>
<td>July 3 to July 9</td>
<td>X, Y, Z</td>
</tr>
</tbody>
</table>
Participant’s Streaming Patterns

In this section we present data about streaming patterns for the letter video clips and literacy tips. We also discuss noncompliance issues.

As noted in Figure 2, streaming of individual letters decreased during the course of the intervention. Streaming patterns were related to availability for most letters. That is, letters became available in alphabetical order, and letters at the start of the alphabet tended to have more frequent streaming. Weekly streaming data indicate that, although previously streamed letters were available in the letter library, viewing was a weekly activity with the letters introduced each week being the letters streamed most frequently during that week.

Figure 2
Mean number of times each letter video clip was streamed among all participants

The total number of letter video clips streamed per week can be found in Figure 3. Participants collectively averaged 851 streams per week. There appears to have been a novelty effect the first week, which had an extremely high rate (1,350 streams). However, streaming rates remained high throughout the intervention. If each participant streamed the minimum
requirements, one would expect 240 streams per week (80 participants x 3 times per week). In fact, even the lowest streaming rate, which occurred during week eight, exceeded these expectations with 526 streams.

**Figure 3**

*Total number of letter video clips streamed by week*

Participants streamed the literacy tips at a far lower rate than they streamed the letter video clips for their children to view (Figures 4 and 5). Participants averaged 245 streams per week. The increase in the letter O literacy tip and the total literacy tips streamed in week five likely are due to a reminder postcard mailed to participants early in that week restating the intervention’s streaming requirements. Participants streamed the literacy tips, on average, less than three times per week during five of the eight weeks of the intervention. Two issues reported by participants in the group interviews help explain this. First, children frequently demanded to view the letter video clips. Second, participants found the literacy tips to be repetitive and often suggested what they already knew. Both of these, as well as other viewing issues, are explicated in the Group Interview Findings section (*below*).
**Figure 4**

*Mean number of times each literacy tip was streamed among all participants*
Figure 5
Total number of literacy tips streamed by week

Figure 6 illustrates participant averages for the total clips streamed, mean clips streamed per week (across the eight weeks), and total clips streamed per week for the letter video clips and Maria literacy tips. As illustrated in Figure 6, the streaming rates per participant were equivalent for participants living at or below the poverty line and those living in households above the poverty line for the letter video clips. However, participants living at or below the poverty line were more likely to stream the Maria literacy tips than their peers.
Noncompliance Issues

In this section we present data about weak implementers. We also discuss two sets of actions taken to encourage participants to stream the letter video clips and literacy tips: weekly calls to weak implementers and mailings to all participants.

There were some participants who were weak implementers. This means they did not stream the required number of letter video clips or they did not stream the letter video clips as requested in the study protocol (e.g., they streamed all three letters of the week in a single day instead of three different days). The number of weak implementers was relatively small. There were approximately four weak implementers each week; and some showed up multiple weeks. The small number could be related to the high desirability of the intervention among the children (see Findings and Group Interview Findings, below).

Weak implementers were flagged each week using information provided to WestEd from the streaming tracking system by GoTV Networks. WestEd evaluation liaisons telephoned each weak implementer, each week they received the designation, to identify the reasons. Reasons
early in the intervention included problems with the cell phone, failure to register properly with GoTV Networks (the application provider), and problems streaming. As the intervention progressed into the summer, weak implementation reasons were related more frequently to participant failures; most typically vacations and participant neglect. Only one parent claimed his child was not interested enough in the videos to meet the study requirements for streaming.

In addition to following up with weak implementers, WestEd mailed reminder letters to every participant the third week of the intervention and postcards the fifth week. The project partners determined the benefits of these supports to encourage streaming outweighed concerns about the naturalistic context for the study. That is, data from the tracking system, phone calls, postintervention survey, and group interviews would yield sufficient data about weak implementation to draw valid conclusions about the level of acceptance of cellular phones as a medium for delivering PBS Ready To Learn content among parents of preschool children. These reminders seemed to have an immediate effect (streaming the Maria literacy tips increased in week five), however there is little evidence for lasting effects of these reminders.
FINDINGS

In this section we present the findings from the pre- and postintervention surveys and the postintervention group interviews. We open with an introduction, which summarizes the key findings. Second, we present demographic data for participants living in poverty and those living above the poverty line. Next, we present survey findings related to home literacy activities, attitudes toward the intervention and cell phones as a delivery mechanism for PBS Ready To Learn programming, and effects of the intervention reported by participants. We close with findings from the group interviews.

Introduction

The purpose of the evaluation study was to (a) assess the level of acceptance of cellular phones as a medium for delivering PBS Ready To Learn content among parents of preschool children; (b) identify the ways parents use their cellular phones to receive PBS Ready To Learn content and patterns of use; and (c) assess differences among subpopulations, specifically participants in households at or below the poverty line and those living above the poverty line. We found:

- Lower-income participants were more likely to be non-White, younger, unmarried, and less educated than participants living in households above the poverty line. They also were less likely to be stay-at-home parents.

- Participants reported statistically significant changes from preintervention to postintervention on activities targeted by the intervention. Both groups reported asking their children more frequently to look for letters on signs or on printed materials around the house. The lower-income group also reported asking their children more frequently to find objects around the house that start with a certain letter. Participants from lower-income households were more likely to report they coviewed the letter video clips with their children.

- Almost all participants reported that their participating children found the letter video clips easy to view and quickly mastered the cell phone buttons to replay the videos.

- More than three-fourths of participants from each group believed to a good extent or great extent a cell phone used in this way can be an effective learning tool. An additional 20 percent believed so to a small extent.
Among lower-income participants, more than three-fourths believed to a good extent or great extent that the letter video clips affected their children’s letter knowledge. Among participants living above the poverty line, approximately half believed so. When asked specifically about the number of letters participants’ children knew, both groups indicated an increase from pre- to postintervention, and this difference was statistically significant for participants living above the poverty line.

Participants in both groups reported statistically significant change from pre- to postintervention in their children’s knowledge of the Alphabet Song. Because the song was not included as part of the intervention content, this finding is evidence of a postintervention increase in general letter knowledge. In the group interviews, parents attributed this increase to the intervention’s ability to improve children’s understanding of what an alphabet letter is. According to participants, their children could make a connection between the letters presented in Letter Videos and the letter names they were singing.

Children in the lower-income households were more likely to ask to view the streamed letter video clips. Parents in these households were less likely to schedule viewing for specific times of the day. They were also more likely to view the letter video clips at home.

A greater proportion of participants living above the poverty line used the letter library than the lower-income group. However, among those who accessed the letter library, lower-income participants accessed it more frequently.

Letter video clip streaming rates were extremely high for both groups. Participants from both groups streamed the literacy tips at a far lower rate. They found these tips to be repetitive and overly-simple.

Most participants were enthusiastic in group interviews about the technology and mode of information delivery. They genuinely wanted to be involved in their children’s early literacy development, and they viewed this model as an effective means to support their efforts. Respondents reported that because they always had their cell phones with them they found it extremely easy to fit literacy activities into their daily routine. Finally, according to the parents, children enjoyed and benefited from the program.

Participants’ suggestions for program improvement primarily addressed ways to expand the program: increased interactivity; explicit links to PBS Ready To Learn television and Internet content; and an expanded curriculum allowing more Sesame Street characters to introduce numbers, colors, shapes, and upper and lower-case letters.
Demographic Data

In this section we present some demographic data about the participants. All data are reported separately for participants living in households at or below the poverty line\(^4\) (lower-income) and participants living in households above the poverty level (higher-income). Data are reported for 79 participants who completed the demographic questionnaire.

The number of participants and proportion living in lower-income households, by locale, are presented in Table 2. Almost half of the 79 participants in the study were living in households at or below the poverty level (44.3 percent).

Table 2
Distribution by locale

<table>
<thead>
<tr>
<th>Locale</th>
<th>Number of participants</th>
<th>Number lower-income</th>
<th>Proportion lower-income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>44</td>
<td>16</td>
<td>36.4</td>
</tr>
<tr>
<td>Oakland</td>
<td>21</td>
<td>11</td>
<td>52.4</td>
</tr>
<tr>
<td>Fresno</td>
<td>14</td>
<td>8</td>
<td>57.1</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>35</td>
<td>44.3</td>
</tr>
</tbody>
</table>

In Table 3 we present the range and median age of respondents. The median age of participants living above the poverty level (36 years) was higher than those in the other group (28 years). Four respondents did not report their age.

Table 3
Adult participant’s age

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of participants</th>
<th>Median age</th>
<th>Age range</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>33</td>
<td>28</td>
<td>20 - 65</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>42</td>
<td>36</td>
<td>27 - 57</td>
</tr>
</tbody>
</table>

There were slightly more boys than girls participating in the study from households at or below the poverty line (58.8 percent boys) and from those above the poverty line (55.8 percent boys).

\(^4\) Classified as parents eligible for subsidized child care based on their annual yearly income according to the California Department of Education Income Ceilings for the State Preschool Program.
As presented in Figure 7, participants living above the poverty level were predominantly White (59.1%) and those living in lower-income households were predominantly Black (57.1%). Also, participants living above the poverty level included Asians (9.1%), although no Asians were included in the other group. The lower-income group included twice as many Hispanics as the other group.

The higher-income group was more highly educated than the lower-income group. More than 40 percent had some postgraduate study compared with less than 3 percent of lower-income participants. Furthermore, almost 10 percent of participants in lower-income households did not complete high school and all the participants in the other group held at least a high school diploma. Further details can be found in Figure 8.

Almost half (45.7%) of lower-income parents were single or never married and almost all parents in the other group (93.2%) were married at the time of the study (Figure 9). A little more than one-third of the parents in lower-income households were married at the time of the study.

Better than half the parents living in lower-income households were employed full-time and another one-third were employed part-time (Figure 10). In the other group, almost half were employed full-time and another one-fourth were employed part-time. One-fourth of the higher-income parents were stay at home parents and approximately 10 percent of the other group were in this category. One lower-income participant was retired.

One lower-income parent reported a child with a learning disability. Among the other parents, one reported a child with a learning disability, two reported behavioral disabilities, and one reported a physical disability.
**Figure 7**  
*Participant ethnicity*

![Ethnicity Bar Chart]

**Figure 8**  
*Participant education level*

![Education Level Bar Chart]
Figure 9
Participant marital status

- Single/never married
- Married/domestic partnership
- Separated/divorced
- Widowed

At/Below Poverty Level
- 2.3
- 45.7
- 37.1
- 14.3
- 2.9

Above Poverty Level
- 93.2
- 2.3

Proportion of Respondents

Figure 10
Participant employment status

- Employed full time
- Employed part time
- Stay at home parent
- Retired

At/Below Poverty Level
- 54.5
- 33.3
- 9.1
- 3.0

Above Poverty Level
- 48.8
- 25.6
- 25.6

Proportion of Respondents
More than 90 percent of participants in both groups had cell phones for two years or more. Thus, they were familiar with cell phone use and capabilities.

**Survey Findings**

In this section we present findings from the pre- and postintervention surveys. All data are presented separately for participants living above the poverty line and those living in lower-income households.

**The Household Literacy Environment**

In this section we present data about the literacy environment of participant households. Almost all participants (better than 90 percent in both groups) reported that their children were being taught the letters of the alphabet preintervention and postintervention. Rates between the two groups did not vary considerably on how the child was learning (Table 4). Although participants reported increases in their children learning the alphabet at home, this change was not statistically significant. However, children in lower-income households were more likely to be taught by siblings and somewhat more likely to be learning the alphabet in preschool or child care than were children in the other group. This pattern reversed for learning the alphabet from a computer.

**Table 4**

*How children are learning the alphabet, by poverty level (check all that apply)*

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35</td>
<td>Post N=30</td>
</tr>
<tr>
<td>At home</td>
<td>85.7</td>
<td>93.3</td>
</tr>
<tr>
<td>Preschool/child care</td>
<td>82.9</td>
<td>83.3</td>
</tr>
<tr>
<td>Siblings</td>
<td>48.6</td>
<td>43.3</td>
</tr>
<tr>
<td>From a book</td>
<td>62.9</td>
<td>63.3</td>
</tr>
<tr>
<td>From television/DVD</td>
<td>57.1</td>
<td>63.3</td>
</tr>
<tr>
<td>From computer</td>
<td>37.1</td>
<td>36.7</td>
</tr>
<tr>
<td>Private tutor</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Groups in this and later sections are (a) those living at/below the poverty line and (b) those living above the poverty line.
The accuracy of some of the data are questionable. For example, asking participants to estimate the number of children’s books (Figure 11) and children’s magazines (Figure 12) in the home produced responses ranging from zero to 500. Among lower-income households, those with fewer than 40 books at preintervention tended to increase the number of children’s books in their household postintervention. Participants in this group reporting more than 20 children’s magazines in the home preintervention declined at postintervention to no participants. No other trends are evident in the data.

**Figure 11**
*Number of children’s books in the home*

<table>
<thead>
<tr>
<th>Number of Books</th>
<th>Proportion of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>22.9</td>
</tr>
<tr>
<td>20-29</td>
<td>14.3</td>
</tr>
<tr>
<td>30-39</td>
<td>11.5</td>
</tr>
<tr>
<td>40-49</td>
<td>7.2</td>
</tr>
<tr>
<td>50+</td>
<td>32.2</td>
</tr>
<tr>
<td>60+</td>
<td>39.3</td>
</tr>
<tr>
<td>70+</td>
<td>2.3</td>
</tr>
<tr>
<td>80+</td>
<td>4.6</td>
</tr>
<tr>
<td>90+</td>
<td>2.3</td>
</tr>
<tr>
<td>100+</td>
<td>0.0</td>
</tr>
</tbody>
</table>

At/Below Poverty Pre | At/Below Poverty Post | Above Poverty Pre | Above Poverty Post

Number of Books
Data related to Internet access seem more reliable, as these do not involve estimates. Participants know if they have a computer, Internet access, and the use of specific websites. All participants in households above the poverty level had Internet access in the home as did two-thirds of those in the other group (Table 5). Preintervention, six participants in lower-income households had no Internet access. This decreased to four households at postintervention. Among participants with Internet access, use of the pbskids.org websites was fairly low (Tables 6 – 8).

Table 5
Percentage of participants who reported Internet access, by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre  N=35</td>
<td>Post  N=30</td>
</tr>
<tr>
<td>No access to the Internet</td>
<td>17.1</td>
<td>13.3</td>
</tr>
<tr>
<td>Yes, I have access to a Internet at home</td>
<td>62.9</td>
<td>70.0</td>
</tr>
<tr>
<td>Yes, I have access to a Internet at work</td>
<td>14.3</td>
<td>16.7</td>
</tr>
<tr>
<td>Yes, I have access to a Internet elsewhere</td>
<td>42.9</td>
<td>26.7</td>
</tr>
</tbody>
</table>
Table 6
Percentage of participants who reported the frequency of their visits to pbsparents.org

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
</tr>
<tr>
<td>N=27</td>
<td>N=26</td>
</tr>
<tr>
<td>Never</td>
<td>74.1</td>
</tr>
<tr>
<td>1-3 times per month</td>
<td>18.5</td>
</tr>
<tr>
<td>1 time per week</td>
<td>7.4</td>
</tr>
<tr>
<td>2-4 times per week</td>
<td>0.0</td>
</tr>
<tr>
<td>5 times per week/daily</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Table 7
Percentage of participants who reported the frequency of their visits to pbskids.org

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
</tr>
<tr>
<td>N=29</td>
<td>N=25</td>
</tr>
<tr>
<td>Never</td>
<td>58.6</td>
</tr>
<tr>
<td>1-3 times per month</td>
<td>24.1</td>
</tr>
<tr>
<td>1 time per week</td>
<td>6.9</td>
</tr>
<tr>
<td>2-4 times per week</td>
<td>10.3</td>
</tr>
<tr>
<td>5 times per week/daily</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Table 8
Percentage of participants who reported the frequency of their child’s visits to pbskids.org

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
</tr>
<tr>
<td>N=28</td>
<td>N=25</td>
</tr>
<tr>
<td>Never</td>
<td>57.1</td>
</tr>
<tr>
<td>1-3 times per month</td>
<td>32.1</td>
</tr>
<tr>
<td>1 time per week</td>
<td>7.1</td>
</tr>
<tr>
<td>2-4 times per week</td>
<td>3.6</td>
</tr>
<tr>
<td>5 times per week/daily</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Participants who reported their children visited the pbskids.org website responded to an item asking about the website activities in which their child engaged (Table 9). Most children played games.
Table 9
Percentage of participants who report their child did activities on pbskids.org, by poverty level (check all that apply)

<table>
<thead>
<tr>
<th>Activity</th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35 Post N=30</td>
<td>Pre N=44 Post N=43</td>
</tr>
<tr>
<td>Look at a show-specific page</td>
<td>8.6 16.7</td>
<td>25.0 20.9</td>
</tr>
<tr>
<td>Play games</td>
<td>25.7 23.3</td>
<td>52.3 51.2</td>
</tr>
<tr>
<td>Read stories</td>
<td>14.3 13.3</td>
<td>27.3 16.3</td>
</tr>
<tr>
<td>Listen to music</td>
<td>11.4 16.7</td>
<td>18.2 20.9</td>
</tr>
<tr>
<td>Print pictures to color</td>
<td>17.1 26.7</td>
<td>27.3 30.2</td>
</tr>
</tbody>
</table>

Participants reported the frequency with which they read aloud to their children (Tables 10 and 11). Participants in both groups\(^6\) reported a decline in reading frequency within the highest level (daily). However, rates tended to increase from pre- to postintervention.

Table 10
Proportion of participants who read aloud to their children pre- and postintervention, by poverty level

<table>
<thead>
<tr>
<th>Frequency</th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35 Post N=30</td>
<td>Pre N=44 Post N=43</td>
</tr>
<tr>
<td>Never</td>
<td>0.0 0.0</td>
<td>0.0 0.0</td>
</tr>
<tr>
<td>1-3 times per month</td>
<td>8.6 6.7</td>
<td>4.5 2.3</td>
</tr>
<tr>
<td>1 time per week</td>
<td>8.6 16.7</td>
<td>2.3 2.3</td>
</tr>
<tr>
<td>2-4 times per week</td>
<td>51.4 53.3</td>
<td>22.7 30.2</td>
</tr>
<tr>
<td>5 times per week/daily</td>
<td>31.4 23.3</td>
<td>70.5 65.1</td>
</tr>
</tbody>
</table>

\(^6\) Groups in this and later sections are (a) those living at/below the poverty line and (b) those living above the poverty line.
Table 11

Frequency of participants reading aloud to their children pre- and postintervention (scale: 1=never; 2=1-3 times/month; 3=1 time per week; 4=2-4 times per week; 5=5 times per week/daily)

<table>
<thead>
<tr>
<th></th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>-.973</td>
<td>.331</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>-.302</td>
<td>.763</td>
</tr>
</tbody>
</table>

Participants also responded to items related to their own and their children’s behavior while reading a book. Few statistically significant differences were found from preintervention to postintervention (Tables 12 and 13). This is partly due to a ceiling effect with most participants in both groups reporting high preintervention levels of engaging in these behaviors. Participants living in households above the poverty level reported increases, which were statistically significant, in the frequency with which their children turn the pages in a book and ask questions.

Table 12

Reading-related activity frequency by participants, pre- to postintervention, by poverty level (scale: 1=never; 2=hardly ever; 3=sometimes; 4=most of the time; 5=almost every time)

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read all of the text in the book</td>
<td>-1.393</td>
<td>.164</td>
</tr>
<tr>
<td>Point to the pictures and label them</td>
<td>.882</td>
<td>.378</td>
</tr>
<tr>
<td>Point to the words in the book</td>
<td>-.170</td>
<td>.242</td>
</tr>
<tr>
<td>Ask your child to label the pictures or point to certain pictures</td>
<td>.000</td>
<td>1.00</td>
</tr>
<tr>
<td>Ask your child to point to letters or words in the book</td>
<td>.632</td>
<td>.528</td>
</tr>
<tr>
<td>Ask your child to predict what will happen next or explain why something happened</td>
<td>-.084</td>
<td>.933</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read all of the text in the book</td>
<td>-.302</td>
<td>.763</td>
</tr>
<tr>
<td>Point to the pictures and label them</td>
<td>.229</td>
<td>.819</td>
</tr>
<tr>
<td>Point to the words in the book</td>
<td>.232</td>
<td>.817</td>
</tr>
<tr>
<td>Ask your child to label the pictures or point to certain pictures</td>
<td>-.455</td>
<td>.649</td>
</tr>
<tr>
<td>Ask your child to point to letters or words in the book</td>
<td>1.023</td>
<td>.306</td>
</tr>
<tr>
<td>Ask your child to predict what will happen next or explain why something happened</td>
<td>1.239</td>
<td>.215</td>
</tr>
</tbody>
</table>
Table 13
Reading-related activity frequency by children, pre- to postintervention, by poverty level (scale: 1=never; 2=hardly ever; 3=sometimes; 4=most of the time; 5=almost every time)

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the pictures</td>
<td>-.577</td>
<td>.564</td>
</tr>
<tr>
<td>Point to the pictures</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Turn the pages</td>
<td>.030</td>
<td>.976</td>
</tr>
<tr>
<td>Ask questions</td>
<td>.037</td>
<td>.971</td>
</tr>
<tr>
<td>Point to letters or words</td>
<td>1.201</td>
<td>.230</td>
</tr>
<tr>
<td>Make comments about the story or pictures</td>
<td>-.528</td>
<td>.597</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the pictures</td>
<td>-.447</td>
<td>.655</td>
</tr>
<tr>
<td>Point to the pictures</td>
<td>1.539</td>
<td>.124</td>
</tr>
<tr>
<td>Turn the pages</td>
<td>2.358</td>
<td>.018*</td>
</tr>
<tr>
<td>Ask questions</td>
<td>4.179</td>
<td>.000*</td>
</tr>
<tr>
<td>Point to letters or words</td>
<td>1.882</td>
<td>.060</td>
</tr>
<tr>
<td>Make comments about the story or pictures</td>
<td>1.264</td>
<td>.206</td>
</tr>
</tbody>
</table>

Participants also were asked about other early literacy support activities in which they engaged with their children at home. Statistically significant differences were reported by participants from preintervention to postintervention on some key activities targeted by the intervention (Table 14). Both groups reported a statistically significant increase in the frequency with which they ask their children to look for letters on signs or on printed materials around the house. The lower-income group also reported a statistically significant increase in the frequency with which they ask their children to find objects around the house that start with a certain letter.
Table 14

Activity frequency of participants and children in the home, pre- to postintervention, by poverty level (scale: 1=never; 2=rarely; 3=occasionally; 4=often; 5=very often)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art or other projects that include writing your child’s name or writing letters of the alphabet</td>
<td>.846</td>
<td>.398</td>
</tr>
<tr>
<td>Ask your child to look for letters on signs or on printed material around the house</td>
<td>2.286</td>
<td>.022*</td>
</tr>
<tr>
<td>Talk to your child about the sounds in familiar words</td>
<td>.795</td>
<td>.426</td>
</tr>
<tr>
<td>Ask your child to find objects around the house that start with certain letters</td>
<td>2.278</td>
<td>.023*</td>
</tr>
<tr>
<td>Sing the Alphabet Song with your child</td>
<td>1.017</td>
<td>.309</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art or other projects that include writing your child’s name or writing letters of the alphabet</td>
<td>.504</td>
<td>.614</td>
</tr>
<tr>
<td>Ask your child to look for letters on signs or on printed material around the house</td>
<td>2.408</td>
<td>.016*</td>
</tr>
<tr>
<td>Talk to your child about the sounds in familiar words</td>
<td>.713</td>
<td>.476</td>
</tr>
<tr>
<td>Ask your child to find objects around the house that start with certain letters</td>
<td>1.684</td>
<td>.092</td>
</tr>
<tr>
<td>Sing the Alphabet Song with your child</td>
<td>1.539</td>
<td>.124</td>
</tr>
</tbody>
</table>

Participants were asked a variety of items about television viewing. Although viewing patterns for broadcast television, videos, and DVDs changed, they did not do so in a systematic way (Tables 15 and 16).

Table 15

Percentage of participants who reported the frequency of their children’s daily viewing of broadcast television

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=34 Post N=29</td>
<td>Pre N=43 Post N=43</td>
</tr>
<tr>
<td>Less than 2 hours</td>
<td>52.9 48.3</td>
<td>55.8 65.1</td>
</tr>
<tr>
<td>2-3 hours</td>
<td>20.6 48.3</td>
<td>37.2 23.3</td>
</tr>
<tr>
<td>4-5 hours</td>
<td>20.6 3.4</td>
<td>7.0 11.6</td>
</tr>
<tr>
<td>6 hours or more</td>
<td>5.9 0.0</td>
<td>0.0 0.0</td>
</tr>
</tbody>
</table>

36
Table 16

Percentage of participants who reported the frequency of their children’s daily viewing of DVDs and videos

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35</td>
<td>Post N=29</td>
</tr>
<tr>
<td>Less than 2 hours</td>
<td>62.9</td>
<td>34.5</td>
</tr>
<tr>
<td>2-3 hours</td>
<td>31.4</td>
<td>51.7</td>
</tr>
<tr>
<td>4-5 hours</td>
<td>2.9</td>
<td>13.8</td>
</tr>
<tr>
<td>6 hours or more</td>
<td>2.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Participants were asked about their children’s viewing of PBS *Ready To Learn* children’s programming (Table 17). Reported viewing decreased for almost all shows. This decrease was statistically significant for lower-income household’s viewing of Sesame Street and the other group’s viewing of Clifford the Big Red Dog. This is supported by the qualitative finding that parents considered their children’s viewing of all media together, and as one medium increased (cell phone streaming) parents limited their children’s exposure to other media (Group Interview Findings, below).
### Table 17

"Television viewing frequency by children in the home, pre- to postintervention, by poverty level (scale: 1=never; 2=1-3 times/month; 3=1 time per week; 4=2-4 times per week; 5=5 times per week/daily)"

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthur</td>
<td>-.346</td>
<td>.729</td>
</tr>
<tr>
<td>Barney</td>
<td>-.500</td>
<td>.617</td>
</tr>
<tr>
<td>Between the Lions</td>
<td>.394</td>
<td>.694</td>
</tr>
<tr>
<td>Clifford the Big Red Dog</td>
<td>-1.391</td>
<td>.164</td>
</tr>
<tr>
<td>Dragon Tales</td>
<td>-.221</td>
<td>.825</td>
</tr>
<tr>
<td>Maya &amp; Miguel</td>
<td>-.265</td>
<td>.791</td>
</tr>
<tr>
<td>Postcards from Buster</td>
<td>-.104</td>
<td>.917</td>
</tr>
<tr>
<td>Reading Rainbow</td>
<td>-.758</td>
<td>.449</td>
</tr>
<tr>
<td>Sesame Street</td>
<td>-2.179</td>
<td>.029*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthur</td>
<td>-1.496</td>
<td>.135</td>
</tr>
<tr>
<td>Barney</td>
<td>-1.279</td>
<td>.201</td>
</tr>
<tr>
<td>Between the Lions</td>
<td>-1.051</td>
<td>.293</td>
</tr>
<tr>
<td>Clifford the Big Red Dog</td>
<td>-2.013</td>
<td>.044*</td>
</tr>
<tr>
<td>Dragon Tales</td>
<td>-1.130</td>
<td>.258</td>
</tr>
<tr>
<td>Maya &amp; Miguel</td>
<td>1.812</td>
<td>.070</td>
</tr>
<tr>
<td>Postcards from Buster</td>
<td>-1.508</td>
<td>.132</td>
</tr>
<tr>
<td>Reading Rainbow</td>
<td>.312</td>
<td>.755</td>
</tr>
<tr>
<td>Sesame Street</td>
<td>-1.561</td>
<td>.118</td>
</tr>
</tbody>
</table>

**Viewing Patterns and Related Issues**

In this section we report findings related to viewing patterns and use of the cell phone. We conducted nonparametric statistical tests (Mann Whitney U) to assess differences between the two income groups (those living at or below the poverty level and those living above the poverty level). Unless noted, the reported differences were not statistically significant. The reader is referred to the Dosage section (above) for details on the amount of video streaming conducted by participants in the study.

Participants reported their children frequently requested to view the videos, indicating high desirability among children regarding the letter video clips (Figure 13). Children in lower-income households requested to view more frequently than children in the other group.
Participants reported they scheduled viewing times for a variety of reasons, which are explicated in the Group Interview Findings (below). How viewing time was scheduled can be found in Figure 14. Participants also reported where the letter video clips were viewed (Figure 15), with most viewing occurring at home.
Figure 14
How participants scheduled viewing time, by poverty level

![Bar Chart showing the proportion of respondents at/below poverty level and above poverty level for different scheduling times.]

- No scheduled viewing time: 70.0% at/below poverty level, 55.8% above poverty level
- Every morning: 20.0% at/below poverty level, 20.9% above poverty level
- Every afternoon: 3.3% at/below poverty level, 4.7% above poverty level
- Every evening: 20.0% at/below poverty level, 16.3% above poverty level
- Before/after a meal: 10.0% at/below poverty level, 4.7% above poverty level
- Before/after daycare: 6.7% at/below poverty level, 7.0% above poverty level
- Reward for good behavior: 6.7% at/below poverty level, 9.3% above poverty level
- Other: 10.0% at/below poverty level, 20.9% above poverty level
Figure 15
Where children viewed the letter video clips, by poverty level

As reported elsewhere in this report, participants had different levels of satisfaction with the text message reminders and the letter library. Table 18 presents participants’ satisfaction with these two aspects of the intervention. Figure 16 reports participants’ use of the letter library, which allowed access to any letter video clips previously released. Participants in households above the poverty line seemed to use the letter library less frequently than participants in lower-income households. Participants also rated the timing/length of the features of the intervention. These ratings can be found in Table 19.
Table 18

*Percentage of respondents who found cell phone services useful, by poverty level*

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Did not use</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To a good extent</th>
<th>To a great extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text messages</td>
<td>N/A</td>
<td>3.3</td>
<td>26.7</td>
<td>33.3</td>
<td>36.7</td>
</tr>
<tr>
<td>Letter library</td>
<td>6.7</td>
<td>0.0</td>
<td>16.7</td>
<td>23.3</td>
<td>53.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Did not use</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To a good extent</th>
<th>To a great extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text messages</td>
<td>N/A</td>
<td>2.3</td>
<td>30.2</td>
<td>37.2</td>
<td>30.2</td>
</tr>
<tr>
<td>Letter library</td>
<td>2.3</td>
<td>0.0</td>
<td>14.0</td>
<td>41.9</td>
<td>41.9</td>
</tr>
</tbody>
</table>

Figure 16

*Participants’ self-reported use of the letter library, by poverty level*

- Never
- 1-3 times per month
- 1 time per week
- 2-4 times per week
- 5 times per week/daily

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>2.3</th>
<th>34.9</th>
<th>18.6</th>
<th>34.9</th>
<th>9.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>6.9</td>
<td>24.1</td>
<td>17.2</td>
<td>44.8</td>
<td>6.9</td>
</tr>
</tbody>
</table>
Table 19
Percentage of respondents who ranked the timing/length of the following features of the Learning Letters with Elmo program, by poverty level

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Too long</th>
<th>Just right</th>
<th>Not long enough</th>
<th>Did not view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria literacy tips</td>
<td>30.0</td>
<td>63.3</td>
<td>0.0</td>
<td>6.7</td>
</tr>
<tr>
<td>Elmo introduction</td>
<td>10.0</td>
<td>80.0</td>
<td>0.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Letter video clip</td>
<td>0.0</td>
<td>70.0</td>
<td>30.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Too long</th>
<th>Just right</th>
<th>Not long enough</th>
<th>Did not view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria literacy tips</td>
<td>22.5</td>
<td>70.0</td>
<td>0.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Elmo introduction</td>
<td>16.7</td>
<td>73.8</td>
<td>9.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Letter video clip</td>
<td>2.3</td>
<td>86.0</td>
<td>11.6</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Participants responded to items related to viewing habits. All parents reported viewing some of the letter video clips along with their children (Figure 17). Although participants in households above the poverty level were somewhat less likely to do so, the difference between the two groups was not statistically significant. Children tended to view the entire letter video clip when they viewed. However, children in lower-income households were more likely to view about half the letter video clip during each viewing and less likely to view the entire clip (Figure 18).
Figure 17
Participant coviewing letter video clips with their children, by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>30.2%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Some of the time</td>
<td>36.7%</td>
<td>44.2%</td>
</tr>
<tr>
<td>Most of the time</td>
<td>46.7%</td>
<td>25.6%</td>
</tr>
<tr>
<td>All of the time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proportion of Respondents

Figure 18
How much of the letter video clips children viewed each time they viewed, by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire clip</td>
<td>80.0%</td>
<td>90.0%</td>
</tr>
<tr>
<td>About half</td>
<td></td>
<td>5.0%</td>
</tr>
<tr>
<td>Just Elmo introduction</td>
<td></td>
<td>16.7%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Proportion of Respondents

Typically, participants reported their children found the letter video clips easy to view (Figure 19). They also reported their children’s comfort level using the cell phone increased.
(Figure 20). As reported in the Group Interview Findings (below), many participants were pleased their child was introduced to cell phone technology.

**Figure 19**

*Participant report of child’s ease of viewing letter video clips, by poverty level*

[Diagram showing the proportion of respondents who found it easy for their child to view letter video clips, categorized by poverty level. The chart shows a higher proportion of respondents at/below poverty level finding the task easy compared to those above poverty level.]
We also asked participants about their comfort level regarding their children using their cell phone. In fact, the experience of the intervention increased parental concerns (Table 20).

Table 20
Percentage of parents who report they have concerns about their children using their cell phone (check all that apply), by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (N=35) Post (N=30)</td>
<td>Pre (N=44) Post (N=43)</td>
</tr>
<tr>
<td>No concerns</td>
<td>54.3 30.0</td>
<td>38.6 18.6</td>
</tr>
<tr>
<td>Breaking the phone</td>
<td>31.4 53.3</td>
<td>50.0 72.1</td>
</tr>
<tr>
<td>Using up minutes</td>
<td>8.6 13.3</td>
<td>20.5 20.9</td>
</tr>
<tr>
<td>Calling people accidentally</td>
<td>31.4 50.0</td>
<td>50.0 55.8</td>
</tr>
<tr>
<td>Other</td>
<td>8.6 13.3</td>
<td>4.5 7.0</td>
</tr>
</tbody>
</table>
We asked participants to report on the various disturbances that interfered with their own or their children’s ability to view the literacy tips and letter video clips. These disturbances can be found in Table 21. The most frequently reported disturbance in the “other” category was related to viewing speed surpassing the streaming speed, which paused the video for the stream to catch up. Parents in the Fresno locale noted their wireless signal was not very strong and this posed a problem for them and their children.

Table 21
Percentage of respondents who reported the following disturbances, by poverty level

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of cell phone signal</td>
<td>43.3</td>
<td>16.7</td>
<td>30.0</td>
<td>6.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Phone malfunction</td>
<td>51.7</td>
<td>13.8</td>
<td>24.1</td>
<td>10.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Server was busy or inaccessible</td>
<td>27.6</td>
<td>27.6</td>
<td>34.5</td>
<td>10.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Not enough time to complete a clip</td>
<td>75.0</td>
<td>20.8</td>
<td>4.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Child dropped phone</td>
<td>56.7</td>
<td>20.0</td>
<td>23.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Child interrupted video by pushing buttons</td>
<td>46.7</td>
<td>30.0</td>
<td>30.0</td>
<td>3.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Child interrupted video in another way</td>
<td>64.3</td>
<td>10.7</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>75.0</td>
<td>0.0</td>
<td>0.0</td>
<td>25.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above Poverty Level</th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of cell phone signal</td>
<td>34.9</td>
<td>23.3</td>
<td>39.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Phone malfunction</td>
<td>60.0</td>
<td>17.5</td>
<td>17.5</td>
<td>5.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Server was busy or inaccessible</td>
<td>16.3</td>
<td>25.6</td>
<td>53.5</td>
<td>4.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Not enough time to complete a clip</td>
<td>59.5</td>
<td>26.2</td>
<td>11.9</td>
<td>2.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Child dropped phone</td>
<td>69.8</td>
<td>20.9</td>
<td>9.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Child interrupted video by pushing buttons</td>
<td>39.5</td>
<td>32.6</td>
<td>25.6</td>
<td>2.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Child interrupted video in another way</td>
<td>71.8</td>
<td>12.8</td>
<td>15.4</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>71.4</td>
<td>0.0</td>
<td>14.3</td>
<td>14.3</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Finally, we asked participants if they would pay for a service such as Learning Letters with Elmo that offered their children clips about letters and provided the respondent with literacy tips. Parents in lower-income households were less likely than their peers living in households above the poverty level to be willing to pay for the service and this difference was statistically significant (Z = 2.042; \( p \leq .05 \)). Among parents willing to pay, less than half in either group responded they would be willing to pay more than five dollars per month.
**Effects on Children**

The purpose of this evaluation was to assess the potential of cell phones as a medium for delivery of PBS *Ready To Learn* early literacy content. It was not designed to assess the effects of the intervention on children in a scientifically rigorous manner because: (a) the intervention was not designed to produce statistically significant effects: it was not intense enough, controlled enough, or of long enough duration; (b) the resources to do so were not available; and (c) this was not the aim of the funding agency. However, we included a number of items on the surveys that addressed participant’s perceptions of the effects of the intervention on their children. We present these in this section along with some statistical tests for significance, where appropriate. We caution against attributing effects to the intervention, as no comparison group data are available.

Participants were fairly positive about the intervention. Their ratings for a number of items can be found in Table 22. Their children enjoyed watching the letter video clips and participants believed their children benefited from watching the clips. Participants were fairly comfortable with their children holding the cell phone, which could have been an obstacle to successful implementation. Most participants (75 to 80 percent) also believed the cell phone can be an effective learning tool when used as it was in the intervention.

**Table 22**

*Percentage of respondents who reported the following statements, by poverty level*

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To a good extent</th>
<th>To a great extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child enjoyed watching the letter video clips</td>
<td>0</td>
<td>10.0</td>
<td>26.7</td>
<td>63.3</td>
</tr>
<tr>
<td>The letter video clips affected child's letter knowledge</td>
<td>6.9</td>
<td>20.7</td>
<td>44.8</td>
<td>27.6</td>
</tr>
<tr>
<td>Comfortable with child holding cell phone</td>
<td>0.0</td>
<td>23.3</td>
<td>33.3</td>
<td>43.3</td>
</tr>
<tr>
<td>Using a cell phone in this way can be an effective learning tool</td>
<td>0.0</td>
<td>20.0</td>
<td>43.3</td>
<td>36.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Above poverty level</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To a good extent</th>
<th>To a great extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child enjoyed watching the letter video clips</td>
<td>0</td>
<td>14.0</td>
<td>34.9</td>
<td>48.8</td>
</tr>
<tr>
<td>The letter video clips affected child's letter knowledge</td>
<td>9.8</td>
<td>39.0</td>
<td>36.6</td>
<td>14.6</td>
</tr>
<tr>
<td>Comfortable with child holding cell phone</td>
<td>0.0</td>
<td>11.6</td>
<td>39.5</td>
<td>48.8</td>
</tr>
<tr>
<td>Using a cell phone in this way can be an effective learning tool</td>
<td>2.3</td>
<td>20.9</td>
<td>48.8</td>
<td>27.9</td>
</tr>
</tbody>
</table>
Participants in both groups reported the reading status of their children, as measured with an anecdotal ordinal scale, increased during the intervention (Tables 23 and 24).

**Table 23**  
*Percentage of participants who reported their children’s reading status, by poverty level*

<table>
<thead>
<tr>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre N=35 Post N=30</td>
<td>Pre N=44 Post N=43</td>
</tr>
<tr>
<td>“Pretends” to read</td>
<td></td>
</tr>
<tr>
<td>40.0 33.3</td>
<td>25.0 9.3</td>
</tr>
<tr>
<td>Remembers some words of familiar books</td>
<td>45.7 56.7</td>
</tr>
<tr>
<td>Reads familiar books on his/her own</td>
<td>8.6 3.3</td>
</tr>
<tr>
<td>Reads most books for his/her age</td>
<td>2.9 3.3</td>
</tr>
<tr>
<td>Reads books more advanced than his/her age group</td>
<td>2.9 3.3</td>
</tr>
<tr>
<td>None of the above</td>
<td>0.0 0.0</td>
</tr>
</tbody>
</table>

**Table 24**  
*Reported reading status of children, pre- to postintervention, by poverty level (scale: 1=pretends to read; 2=remembers some words; 3=reads familiar books; 4=reads most books; 5=reads advanced books)*

<table>
<thead>
<tr>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>.847 .397</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>1.872 .061</td>
</tr>
</tbody>
</table>

We also asked participants about their children’s knowledge of the letters of the alphabet (Tables 25 and 26). Both groups indicated improvement in children’s knowledge of the letters of the alphabet. At the end of the intervention participants reported that every child knew some of the letters, which was not the case at the beginning. A statistically significant difference was found for both groups on change from pre- to postintervention for the proportion of children who knew all the alphabet letters.
Table 25
Percentage of participants who reported number of alphabet letters their child knows, by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35 Post N=30</td>
<td>Pre N=44 Post N=43</td>
</tr>
<tr>
<td>None</td>
<td>2.9 0.0</td>
<td>4.5 0.0</td>
</tr>
<tr>
<td>Some</td>
<td>34.3 33.3</td>
<td>20.5 7.0</td>
</tr>
<tr>
<td>Most</td>
<td>28.6 16.7</td>
<td>15.9 18.6</td>
</tr>
<tr>
<td>All</td>
<td>34.3 50.0</td>
<td>59.1 74.4</td>
</tr>
</tbody>
</table>

Table 26
Percentage of participants reporting children know all of the alphabet letters, by poverty level
(1 = knows all letters; 2 = does not know all letters)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>Chi-square</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>34.3</td>
<td>42.9</td>
<td>7.704</td>
<td>.006*</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>59.1</td>
<td>72.7</td>
<td>23.833</td>
<td>.000*</td>
</tr>
</tbody>
</table>

Children’s knowledge and recognition of alphabet letters started high preintervention (Table 27). Almost all the children knew the letters in their name (91.4 percent of those in lower-income households and 93.2 percent of those above the poverty level) and pointed out letters when they saw them (80.0 and 95.5 percent, respectively). In spite of these initially high rates, participants reported some improvements (although the growth was not statistically significant). Furthermore, a statistically significant difference was found preintervention but not postintervention between participants in lower-income households and those living above the poverty level, which indicates this gap was closed (Tables 28 and 29).
Table 27
Percentage of participants who reported their child’s letter recognition behaviors, by poverty level

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35</td>
<td>Post N=30</td>
</tr>
<tr>
<td>Knows letters in name</td>
<td>91.4 N/A</td>
<td>93.2 N/A</td>
</tr>
<tr>
<td>Can spell name verbally</td>
<td>N/A 50.0</td>
<td>N/A 65.1</td>
</tr>
<tr>
<td>Can recognize name when written or in print</td>
<td>N/A 76.7</td>
<td>N/A 79.1</td>
</tr>
<tr>
<td>Can write name</td>
<td>N/A 20.0</td>
<td>N/A 58.1</td>
</tr>
<tr>
<td>Points out letters from alphabet when seen</td>
<td>80.0 96.7</td>
<td>95.5 95.2</td>
</tr>
</tbody>
</table>

Table 28
Percentage of participants who reported their child’s visual letter recognition (points out letters when seen), by poverty level

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>Chi square</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>80.0</td>
<td>96.7</td>
<td>.315</td>
<td>.575</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>95.5</td>
<td>95.2</td>
<td>.105</td>
<td>.746</td>
</tr>
</tbody>
</table>

Table 29
Percentage of participants who reported their child’s visual letter recognition (points out letters when seen), pre- to postintervention

<table>
<thead>
<tr>
<th></th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
<th>Chi square</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preintervention</td>
<td>80.0</td>
<td>95.5</td>
<td>4.612</td>
<td>.032*</td>
</tr>
<tr>
<td>Postintervention</td>
<td>96.7</td>
<td>95.2</td>
<td>.089</td>
<td>.765</td>
</tr>
</tbody>
</table>

Participants also reported on their children’s knowledge of the Alphabet Song (Table 30). Both groups indicated improvements from pre- to postintervention in the children’s knowledge of the letters in the proper order. A statistically significant difference was found from pre- to postintervention for both groups (Table 31). Because this song was not included as part of the intervention content, this increased knowledge is evidence of generalization from the specific intervention to children’s other alphabet literacy. In the group interviews, parents attributed this to the intervention’s ability to improve children’s understanding of what an alphabet letter is and their children making a connection to what they were singing.
Table 30

Percentage of participants who reported their children’s knowledge of the Alphabet Song, by poverty level

<table>
<thead>
<tr>
<th>Table 30</th>
<th>At/Below Poverty Level</th>
<th>Above Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre N=35 Post N=30</td>
<td>Pre N=44 Post N=43</td>
</tr>
<tr>
<td>All of the letters in the proper order</td>
<td>57.1 70.0</td>
<td>84.1 93.0</td>
</tr>
<tr>
<td>Some of the letters in the proper order</td>
<td>34.3 26.7</td>
<td>13.6 7.0</td>
</tr>
<tr>
<td>No letters in the proper order</td>
<td>2.9 0</td>
<td>0.0 0.0</td>
</tr>
<tr>
<td>Does not know this song</td>
<td>5.7 3.3</td>
<td>2.3 0.0</td>
</tr>
</tbody>
</table>

Table 31

Participant rating of child’s knowledge of the Alphabet Song, pre- to postintervention, by poverty level (scale: 1=does not know the song; 2=sings with letters out of order; 3=sings with some letters in order; 4=sings with all letters in the proper sequence)

<table>
<thead>
<tr>
<th>Table 31</th>
<th>Wilcoxon Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>At/Below Poverty Level</td>
<td>2.111</td>
<td>.035*</td>
</tr>
<tr>
<td>Above Poverty Level</td>
<td>2.121</td>
<td>.034*</td>
</tr>
</tbody>
</table>

Findings from the Group Interviews

WestEd researchers conducted group interviews with the participants to obtain narrative feedback and examples of participant’s experiences during the study. The interview protocol (Appendix E) addressed four subject areas: (a) the literacy tips, (b) the children’s reactions and perceived learning, (c) viewing, and (d) general program thoughts. We also made time for participants to share other feedback not covered in the postintervention survey or group interview.

A few crosscutting themes emerged from the data. First, most participants were enthusiastic about the technology and mode of information delivery; however many were still committed to more common and ubiquitous technologies and means of communication. Next, participants genuinely wanted to be involved in their children’s early literacy development and they viewed this model as an effective means to support their efforts and their children’s development. Using cell phones to support literacy efforts was at the heart of the study. In fact, respondents reported that because they always had their cell phones with them they found it extremely easy to fit literacy activities into their daily routine. Finally, according to the parents,
their children enjoyed and benefited from the program. However, participants added that the program’s current incarnation was limited. Each of these three themes is explicated below.

Mode of Information Delivery

During our group interviews, we found most participants were enthusiastic about the use of cell phones to deliver literacy-based information to parents and their children. In particular, participants appreciated the transportability and accessibility.

Most participants reported using the cell phone with their children in the home. However, many also said their children viewed the letter video clips outside the home; either while driving in the car or while waiting for something such as a karate class to begin or in line at the grocery store. Participants added that because they always carried their cell phones with them, they could fit the lesson into their daily routine and then incorporate follow-up activities suggested in the Maria literacy tips7 wherever they were.

The participants said they found great value in handing their cell phone to their children and knowing their children was occupied with an educational activity. One parent said, “… I’m always out. I work full-time, I’m a full-time student, and a single mom… So when we’re out in the car and he gets bored, he’ll watch the [letter video] clips or he’ll pretend to read to me. It was great for him to not get bored and he’s learning his letters.” Almost all participants reported their children quickly learned how to view the letter video clips without assistance. This allowed children to view the clips repeatedly. This served the dual purposes of occupying the children for a lengthy period of time and utilizing repetition to help the children learn the letters and the songs. Many participants reported their children watched the letter video clips multiple times. Often these viewing sessions ended only because they had reached their destination or the participant had to use the phone.

The participants also commented that their children believed using the phone was something special. Most children this age typically do not have access to a cell phone and therefore were especially intrigued at using their parent’s phone. Some participants leveraged this concept by using viewing as a reward. Yet even those who did not implement this strategy said their children considered viewing the clips special because it was on a device they usually were not allowed to handle.

Despite this positive feedback, there was evidence that many of the participants still were wedded to traditional modes of technology for information delivery and communication. Many of the explicit frustrations were devoted to problems with cell phone service and the quality of

7 Participant feedback on the Maria literacy tips are addressed separately later in this section.
the phones provided for the study. A few participants also voiced concern about children being exposed to one more electronic medium.

Weak cell phone service proved to be the most frustrating aspect of the study. Some participants did not have any service in their homes, which forced participants to stream and view the clips only when they were out of the house. Technological problems that were beyond the control of the content providers also added to the frustration. For example, the letter video clips frequently halted playing mid-video to reload before continuing playback. Service problems also caused the picture to pixilate, which also disrupted the viewing for children. At times, some participants were unable to access the videos due to server or system problems. In these circumstances, the children became impatient, lost interest, or handed the phones back to their parents calling it “broken.” Though a majority of the participants reported experiencing instances of disrupted viewing, a few did not experience any service-related problems at all.

Participants also complained about the cell phone selected for the study. Though they all appreciated the sleek and slim exterior, all the participants reported the battery for the phone lost power quickly. This was especially the case when the children were streaming and viewing the letter video clips. Some participants were concerned they would lose all phone power if their children viewed the letter video clips for too long. Participants also said the phones provided for the study seemed flimsy, especially in the hands of a young child. The phones provided for the study were selected, in part, due to the large screen. However, the large screen was not crucial for quality viewing as participants reported the children often shut the phone during a viewing session to watch the letter video clip from the smaller screen on the front of the phone. In the future, participants should be advised to use a sturdy phone, regardless of the screen size.

There was minimal concern expressed by participants about their child solely being entertained by the letter video clips, with little educational value. Other participants expressed their relief this was not the case and believed their children indeed were learning. However, a couple of participants were still concerned that a cell phone delivery method just adds to kids’ overexposure to television and the media. During the group interview, participants suggested including cell phone viewing time as part of a child’s total media exposure allowance for the day. In contrast to parents who worried about overexposure, a few participants found value in the program as a means to introduce kids to technology. One parent said, “One of the things I liked about the study is that he learned how to maneuver around on the program really easily. Before I knew it, he would be going into the [letter library] and choosing the letter he wanted. He actually figured that out before I did!”

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8 Newer versions of this Samsung phone that have a more powerful battery became available after the intervention began.
Participants all said they were, at the very least, satisfied with the program. Some reported they would have chosen to keep the service, but only if the letter video clips still were available. Many participants admitted they could not figure out how to access the mobile web and only could participate in the study because the web address already was saved on their phones. In the future, a program like this could be a great opportunity to introduce the PBS *Ready To Learn* website to parents and bookmark the web address on their phones. Participants suggested including intervention-related games and coloring pages for their children in the study because they were unaware the website contained these materials already.

*Early Literacy Development*

Each group interview we conducted produced data indicating the participants genuinely wanted to be involved in their children’s early literacy development. Participants expressed their sincere appreciation for the literacy tips and were eager to contribute their own ideas for improving literacy tip delivery, program delivery, and program content.

When asked about the Maria literacy tips, many participants first hesitated, and then responded positively. When asked to give an explanation, they all said they appreciated the tips and considered them helpful, adding that the most important aspect of the literacy tips was how they served as reminders to keep their children’s early literacy development in mind. On parent said, “I felt it was helpful to get a reminder to do these exercises with your children… it was helpful to be prompted to think about teaching and talking about letters and words.” Many of the participants said they employed the suggestions of pointing out objects around the house, supermarket, or on the road to support the letter of the day. Participants also said they would sometimes go to the literacy tip clip to get ideas for vocabulary to use with their children, especially for the “difficult” letters like X or Q. In spite of these positive comments, however, participants found the content of the literacy tips repetitive and most admitted they greatly reduced the extent to which they watched the Maria segment after the second or third week. This is supported by the data from the tracking system.

Participants hoped the literacy tips included new activity ideas, uncommon vocabulary words, and book suggestions. The participants also shared their opinions of the text messages that alerted them to download the Maria literacy tip and letter video clip. Participants said the text message came too early in the morning, often waking them up at 7 a.m. They also commented that if the literacy tip is the same for each letter, the clip should only come once each week (if not less often), therefore serving as a reminder. Some participants suggested not

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9 Rights and cost preclude PBS *Ready To Learn* and Sesame Workshop from continuing to provide the video clips to the participants.
streaming the literacy tip, but rather deliver it in a text message. They added that they often were not able to watch the clip because once their children heard Maria’s voice, they would grab for the phone because they knew the Elmo letter video clip was next. In the future, the literacy tip function should be redesigned to incorporate more ideas for parents to employ, yet come less often so they do not get overwhelmed or bored. It may also be helpful to rethink the delivery mechanism, because most participants thought the streaming video was unnecessary and too time consuming.

We asked participants about their preference for having a letter of the day versus having access to a letter library with the complete alphabet. Some participants preferred the letter of the day concept, which allowed their children to focus on just one letter at a time. The letter of the day also allowed participants to plan activities to support their children’s learning. Those who preferred access to an entire letter library reasoned that access to the entire alphabet allowed them to download letter video clips that pertained to spontaneous stimuli, such as the letter “G” if the family attended the Gilroy Garlic Festival. Another reason in support of the letter library is that children whose name began with a letter toward the end of the alphabet grew impatient during the study because “their letter” had not come up yet. Participants suggested making the program customizable so they could set up a letter of the day in whatever order they choose, and have access to the entire letter library so spontaneous letter lessons could be supported. Typically, parents of older children who already had some alphabet familiarity preferred to have access to the entire letter library. In future incarnations of the program, we recommend continuing the letter of the day, but also making the entire letter library available. This level of accessibility would accommodate both styles of instruction and multiple levels of alphabet literacy among children in the target population.

The participants also contributed a number of comments and recommendations they thought would improve the program. They appreciated that the letter video clips incorporated vocabulary not traditionally associated with a particular letter. For example, the letter A was associated not only with the word “apple,” but also with the words “apricot” and “acorn.” They believed this helped increase their children’s vocabulary. According to one participant, “I always taught my son that ‘A’ is for apple. He told me, ‘A is for apricot, too.’ He also learned ‘alligator.’” In addition, many participants said that the more often a letter was clearly displayed during a clip, the more likely their child was to learn it. For example, in the letter video clip for the letter C, the C was clearly shown throughout the clip, allowing the child to focus on the shape, the name, and the sound. The participants also reported they wanted more content variety. They would like to see the program offer varying levels of literacy-based lessons, such as lower and upper case letters, vocabulary, and spelling. Further, they wished to see the subject matter
expanded to include numbers, math, colors, and even foreign languages. Participants also hoped each letter could have more than one clip to maintain their children’s interest.

The feedback we received from our participants regarding their interest in using this tool to improve their children’s literacy was encouraging. Almost all of the program improvement comments related to expanding the program. This feedback, especially regarding improving literacy tip delivery and expanding the program content, should be considered when further developing cell phone content for PBS Ready To Learn.

Child Reaction and Learning

According to the participants, the children enjoyed the letter video clips and using their parent’s cell phone. The participants also reported that their children’s actions and behavior showed signs of learning they attributed to the letter video clips.

When asked about how their children liked the program, many of the participants said the kids loved the concept of Elmo calling them and being able to use mom’s and dad’s phone. There were also many examples of how the children genuinely enjoyed watching the letter video clips. Participants noticed their children singing the songs from the clips and requesting to watch their favorite ones repeatedly. Some participants reported that their children preferred the clips with live people, while others said their children preferred those with cartoons and Muppets. Regardless, all the participants said their children always enjoyed the letter video clips with songs they could sing along. The children also enjoyed seeing their favorite Sesame Street characters during the clips. A few participants suggested that other characters host the introduction, not just Elmo so the children would be eager to see which Sesame Street character is calling them.

In addition to the children enjoying the clips, participants reported the program improved their children’s literacy. A number of participants said they noticed a difference in their children as a result of the intervention. Some participants said viewing the clips jump-started their children’s interest in letters and the alphabet. According to one parent, “My child did not know any letters. That was kind of frustrating for me because he was in preschool… He did not know any letters and he’s going to kindergarten and he doesn’t even know how to spell his name. Because of the clips, he knows a few of his letters now.” In reference to her son, another participant shared, “He knows all his ABCs now. Before he would mix up the letters, or make up letters that don’t exist.” During the study, children began looking for the letter of the day and pointing it out to their parents on their own. Participants also said the clips helped their children’s understanding of what the alphabet is and that a letter is associated with a specific sound and shape. In one case, a parent said her child, who was non-verbal at child care, began to
talk about the alphabet after watching the clips. Participants whose children already knew the alphabet also had positive observations. They said the letter video clips reinforced the alphabet for their children, especially letters children found problematic. Parents also said they noticed their children using new vocabulary they learned through watching the letter video clips. Participants who shared the clips with a child too young to formally participate in the study also observed positive results. One parent said, “I think my three-year-old benefited more than my four-year-old, even though the three-year-old isn’t in the study. My four-year-old pretty much knows his alphabet and the phonics, and is kind of way past that. … But I think it actually did teach my three-year-old the letters. … It was kind of like his first experience with a lesson, and he would start talking about it wherever we went. And that’s the first time he’s ever done that even though I’ve exposed him to stuff before. So I think he really learned.”

Almost all participants had an example of how the program positively influenced their children, however many of them added that the program’s current version was limited. The main concern was from participants whose children already were familiar with the alphabet. For these children, the intervention was not advanced enough and, therefore, these children quickly became bored and refused to continue viewing. Participants suggested expanding the program content to include more advanced topics such as learning to sound out words or rhyming. Another suggestion made was to make the program interactive, instead of passive learning through viewing. Participants thought their children were capable of pushing the buttons on the cell phone to make selections and answer questions. Some participants also hypothesized that their children’s boredom was a result of the study requirements. They thought that if their child was not required to view the clips as frequently as the study protocol demanded, it would make viewing them more special. Technical difficulties with the phone and letter video clip stream also were blamed for their children’s weakened interest.

Overall, the participants said the program, as it is currently designed, would be beneficial for young children who are learning the alphabet. They suggested the target age to be 2-3 years old or older English Language Learners. However, if the audience for this program is expanded, we suggest including advanced content to maintain interest and encourage long-term use.
CONCLUSIONS

Based on the findings from this evaluation study, we conclude that cell phones hold the potential to be an effective medium to deliver PBS *Ready To Learn* content to parents of preschool children and to children themselves.

Participants in the study found the intervention to be a positive experience for themselves and especially for their children. Most participants were enthusiastic about the technology and mode of information delivery. Participants genuinely wanted to be involved in their children’s early literacy development and they viewed this model as an effective means to support their efforts and their children’s development. Most importantly, participants reported that their children enjoyed and benefited from the program.

Child participants, for the most part, were eager and excited to view the letter video clips. They frequently requested to view the videos. Some parents reported that each time their phone rang, their children came running, hoping the call was from Elmo and for them.

Despite these positive findings, participants experienced some difficulties using cell phones as directed by the study. For example, parents would like the video to load more quickly. These types of technical drawbacks are beyond the control of the content provider. The limitations of the cell phone batteries also pose problems: streaming video drains the battery quickly, and parents are concerned about conserving power for incoming calls. Finally, parents remain somewhat concerned that their children may damage the cell phone.

According to participants, content should be improved if the intervention is to be scaled for release to a larger audience. Participants requested a greater variety of letter video clips, more relevant parent literacy tips, and an expanded curriculum. Participants also suggested linking the letter video clips to other PBS *Ready To Learn* television and Internet content.

This study demonstrated the value of this approach. Parents are willing to accept their cell phones as a medium for delivering PBS *Ready To Learn* content. We recommend future research, using a randomized experimental design, to address the effects of the intervention.
APPENDIX A
LEARNING LETTERS WITH ELMO
INTERVENTION MATERIALS

Screen shots:
Phone provided to participants
   Menu
Reminder text message sent for times per week
   Title screen
   Choose a letter
   Choosing the letter C
   Letter C literacy tip
   Elmo’s introduction to the letter C
   “C” is for Cookie Video Clip

Letter video clip and literacy tip content
Phone provided to participants

Menu

Reminder text message sent four times per week

Title screen
Choose a letter

Choosing the letter C

Letter C literacy tip

Elmo's introduction to the letter C
“C is for cookie”
<table>
<thead>
<tr>
<th>Letter</th>
<th>Maria Literacy Tip Script</th>
<th>Elmo Letter Video Clip Introduction</th>
<th>Letter Video Clip Description and Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Maria: Hello. It’s Maria from Sesame Street. Today’s letter is the letter A. Wherever you are throughout the day, help your child look for things that begin with the letter A. In the supermarket, work with your child to find as many A foods as you can, like apples, artichokes, and asparagus, and point out the letter A on the signs for these items! Now click on the Elmo link for the letter A and give your cell phone to your child to watch a movie about today’s letter!</td>
<td>Elmo: Hi! It’s Elmo! And guess what? Elmo loves letters! Today Elmo wants to talk to you about the letter A. Lots of things begin with the letter A. Apple, ape, and astronaut! Take a look at this! Watch this awesome video for A words! Like acrobat, accordion, and an alligator eating an apricot!</td>
<td>The Sesame Street clip is an animated segment showing various things that begin with the letter a, including an alligator who eats an apricot, an acrobat, an accordion, an artist, and an airplane. As each object is animated, children say the name of the object, and the letter A is visible on the screen at the beginning and end of the clip. 1:31</td>
</tr>
<tr>
<td>B</td>
<td>Maria: Hola! I’m Maria from Sesame Street. Today your child will be learning about the letter B. Choose a room in your home with your child, and look for things that begin with the letter B. Don’t forget to make the B sound . . . buh-buh-buh! The bath is a great place to talk about the letter B! You can play with a boat and make buh-buh-bubbles! Everything you do is a chance to learn something new! Look for letters everywhere! Now click on the Elmo link for the letter B and Elmo will show your child a letter video.</td>
<td>Elmo: Hello letter-lover! It’s your friend Elmo! Today Elmo wants to talk to you about the letter B. Lots of things begin with the letter B. Broccoli, ball, balloon, and banana! Now, Elmo has something to show you. There are lots of B words in this video! See if you can find them. There’s Bert, Big Bird, Benny Bunny, and Baby Bear!</td>
<td>The Sesame Street clip features B.B. King and various Muppets singing a song about what would happen without the letter B. As he sings, the Muppets whose names begin with B disappear as he sings that without the letter B, there would be no Bert, Bunny Rabbit, Big Bird, Baby Bear, and finally, no B.B. King. But at the end, B.B. King sings, “But we do have the letter B,” and everyone reappears. The letter B is visible throughout the clip. 3:02</td>
</tr>
<tr>
<td>C</td>
<td>Maria: Hi! This is Maria from Sesame Street. Today’s call is brought to you by the letter C. Choose a room in your home with your child, and look for things that begin with the letter C. You can find things that start with C right in your own living room! Point out the carpet, couch, cushions, and the cat, if you have one! Whenever you’re with your child, whatever you are doing, remember to look for things that begin with the letter C. Now click on the Elmo link for the letter C and hand the phone to your child. Elmo is going to talk to your child and show a letter video.</td>
<td>Elmo: Hello! Elmo has a letter for you today! But it’s not in the mail. No! It’s on the phone, right here! Elmo wants to tell you about a letter he really loves! It’s the letter C. Elmo knows some things that begin with the letter C. Carrot, cup, and costume! Now, watch this with Elmo! Cookie Monster has a song all about his favorite C word — Cookie! Watch for Cookie Monster and his cookie!</td>
<td>The Sesame Street clip features the Muppet Cookie Monster singing the song “C is for Cookie.” Throughout the clip, the letter C is visible on the screen. Cookie Monster also sings about how a round cookie or a donut with a bite out of it looks like a C or that the moon sometimes looks like a C. 2:07</td>
</tr>
<tr>
<td>Letter</td>
<td>Maria Literacy Tip Script</td>
<td>Elmo Letter Video Clip Introduction</td>
<td>Letter Video Clip Description and Duration</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------</td>
<td>-------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>D</td>
<td>Maria: Hola! It’s your friend Maria from Sesame Street! Today I am calling about the letter D. Remember, there are lots of ways you can talk about the letter of the day with your child. Don’t forget to make the D sound . . . duh-duh-duh! Look through your child’s toys for things that start with D. You may have a duh-duh-doll, a dog, a dolphin, a dragon, a dinosaur, or even a duh-duh-donkey! Now click on the Elmo link for the letter D and give your cell phone to your child to watch a letter movie!</td>
<td>Elmo: Hi! Elmo is so happy to see you again! Today Elmo wants to talk to you about the letter D. Elmo can think of some things that begin with the letter D. Hmmmm. Let Elmo see. Oh yeah! There’s dog, doll, and donkey! Now Elmo has something to show you! Watch this and listen for the letter D in the words delighted, decided, and divine! And don’t forget to look for the DJ!</td>
<td>The Sesame Street clip begins with the Muppet DJ Bushman Bill introducing a song by Dee Dee O’Day and the Dewdrops singing “Be My D.” The Supremes-like Muppet trio Dee Dee O’Day and the Dewdrops song includes the lyrics “When you’re near me, I’m delighted. When you leave me, I’m depressed. That’s why I’ve decided, I want you to be my special D.” It continues on to feature many other D words. The letter D is visible on the screen throughout the song. 2:42</td>
</tr>
<tr>
<td>E</td>
<td>Maria: Hi from Sesame Street! It’s me, your friend Maria. Today your child will be learning about the letter E. When you’re in the car or walking around outside, look for letters on stores and street signs. The Letter E is everywhere! Encourage your child look for E on enter and exit signs! Now click on the Elmo link for the letter E and Elmo will show your child a letter video.</td>
<td>Elmo: Hi again Letter Lover! (laugh) Elmo has something new to show you! Elmo was just thinking about the letter E. Lots of things begin with the letter E. Elephant, egg, and elbow! Now, Elmo has something to show you. Here comes an excellent video all about the letter E! Watch for the word elf, which begins with E. And there’s something else that begins with E, too. Hmm. What is it? Oh! It’s Elmo!</td>
<td>The Sesame Street clip features the Muppet Elmo and two children singing Elmo’s Letter E song. During the song, Elmo says the letter E repeatedly and the children show pictures of upper case E and lower case E drawn in a variety of styles. 2:18</td>
</tr>
<tr>
<td>F</td>
<td>Maria: Hello again. It’s Maria from Sesame Street. Today’s letter is the letter F. Spend some time with your child talking about the letter F. Don’t forget to make the F sound . . . fffuh-fffuh-fffuh! The park is a great place to find things that begin with the letter F. You might find a fffuh-fountain, a flag, a fffuh-football, or a fffuh-fish! Now click on the Elmo link for the letter F and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hi again! Elmo wants to show you a new letter today! Elmo wants to tell you about a letter he really loves! It’s the letter F. Elmo knows some things that begin with the letter F. Fountain, fox, and feather! Now, Elmo has something to show you. Watch this video and look for words that begin with the letter F. There’s a fan, a frog, and a football! Fantastic!</td>
<td>The Sesame Street segment begins with a picture of the letter F and then shows a child typing the letter F on a computer keyboard. The picture changes to a computer monitor screen, and the child uses the computer mouse arrow to click on the objects that begin with the letter F, including a fan, a fiddle, a frog, and a football. 1:07</td>
</tr>
<tr>
<td>Letter</td>
<td>Maria Literacy Tip Script</td>
<td>Elmo Letter Video Clip Introduction</td>
<td>Letter Video Clip Description and Duration</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------</td>
<td>-------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>G</td>
<td>Maria: Hola! It’s Maria from Sesame Street. Today’s call is brought to you by the letter G. You can go to the zoo or just look in a book for some great animals that begin with the letter G. Don’t forget to point out both sounds that G can make: “juh” and “guh.” Look for a juh-giraffe and a guh-goat. You might see a juh-gerbil and a guh-gazelle! Now click on the Elmo link for the letter G and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hello letter-lover! It’s your friend Elmo! Today Elmo wants to talk to you about the letter G. Elmo can think of some things that begin with the letter G. Garage, gum, and giggle! Take a look at this! Watch Grover and Georgie sing about some great letter G words! Listen for garden, giant, gallop, and giraffe! Go on, now! (laugh)</td>
<td>The Sesame Street clip features the Muppets George and Grover singing about words that begin with the soft and hard G sounds. They disagree as to which is the proper beginning sound and list words that begin with each sound, including their names, garden, giant, gallop, giraffe, golden, and gentle. In the end, they agree that the letter G has two sounds. Both are holding cut-outs of the letter G throughout the segment. 2:15</td>
</tr>
<tr>
<td>H</td>
<td>Maria: Hello! It’s Maria from Sesame Street again. Today I’m calling about the letter H. When you’re in the supermarket, help your child look for things that begin with the letter H. Try to find hotdogs, hamburgers, honey, and ham! And remember to point out the letter H in the name of the item on the label! Everything you do is a chance to learn something new. Look for letters everywhere! Now click on the Elmo link for the letter H and hand the phone to your child. Elmo is going to talk to your child and show a letter video.</td>
<td>Elmo: Hello! Elmo has a letter for you today! But it’s not in the mail. No! It’s on the phone, right here! Elmo was just thinking about the letter H. Lots of things begin with the letter H. Hair, horse, hamburger and hotel! Now, Elmo has something to show you. Watch this video and see if you can find the letter H words hip, hey, and help! Have fun!</td>
<td>The Sesame Street clip is an animated song clip where sounds are added to the letter H to create the words ha, hip, hey, and help. The letter H is also visible throughout the clip. 1:12</td>
</tr>
<tr>
<td>I</td>
<td>Maria: Hello! It’s Maria from Sesame Street again. Today your child is going to learn about the letter I. You can look for the letter I in books, magazines, and the newspaper; and point each one out to your child. Look through a magazine with your child and point out the things that begin with I. You might find ice cream, an island, or an ice cube! And while you’re at it, point out the letter I in the text, too! Now click on the Elmo link for the letter I and Elmo will show your child a letter video.</td>
<td>Elmo: Hi! Elmo is so happy to see you again! Elmo wants to tell you about a letter he really loves! It’s the letter I. Elmo knows some things that begin with the letter I. Ice cream, ink, and iguana! Now, Elmo has something to show you. Watch this video for the letter I words – ice cream, island, and icicle!</td>
<td>The Sesame Street clip is an animated segment where a child is drawing the alphabet as he sings the alphabet song. As he reaches the letter I, his dog steals the letter I, convinced that it’s a bone. As the two disagree, the boy points out the letter I in ice cream, island, and icicle. He then gives one I from “icicle” to the dog and keeps one for his alphabet. 1:35</td>
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<tr>
<td>Letter</td>
<td>Maria Literacy Tip Script</td>
<td>Elmo Letter Video Clip Introduction</td>
<td>Letter Video Clip Description and Duration</td>
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<tr>
<td>J</td>
<td>Maria: Hello! It’s Maria from Sesame Street. Today’s letter is the letter J. Spend some time with your child talking about the letter J. Look around the house for things that begin with the letter J. There may be jelly or jam in the cupboard, a jar on the counter, or a jungle gym in the yard. And if you can’t find any J things, just jump! Now click on the Elmo link for the letter J and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hi again Letter Lover! (laugh) Elmo has something new to show you! Today Elmo wants to talk to you about the letter J. Elmo can think of some things that begin with the letter J. Hmmm. Let Elmo see. Oh yeah! There’s jelly, jump, and jungle! Now, Elmo has something to show you. There are lots of J words in this song! Listen for jellybeans, jump, and jar!</td>
<td>The Sesame Street clip features four Muppets singing a song about their friends whose names begin with the letter J, including J Joe who wears jeans and has a pocketful of jelly beans and J Jane who jumps down the lane and jokes and jives. The letter J is visible throughout the clip. 2:26</td>
</tr>
<tr>
<td>K</td>
<td>Maria: Hola! I’m Maria from Sesame Street. Today’s call is brought to you by the letter K. Wherever you are throughout the day, help your child look for things that begin with the letter K. Don’t forget to make the K sound . . . kuh-kuh-kuh! Challenge your child to search for toys that begin with K. There might be toy kuh-keys, a kangaroo, or a koala, a kite, or a play kuh-kitchen. Now click on the Elmo link for the letter K and Elmo will show your child a letter video.</td>
<td>Elmo: Hi again! Elmo wants to show you a new letter today! Elmo was just thinking about the letter K. Lots of things begin with the letter K. Kangaroo, kite, and kiwi! Now watch this with Elmo! Keep your eye on the phone! In this letter K video watch for the kangaroo, the kite, and the kitten! Awww.</td>
<td>The Sesame Street clip is an animated segment hosted by Karen the Kangaroo. Karen talks about many K words, including kettle, kick, kiss, kite, kitten, king, and kilt. Each word is illustrated as Karen says it, and the letter K is visible throughout. 1:23</td>
</tr>
<tr>
<td>L</td>
<td>Maria: Hi! This is Maria from Sesame Street. Today I’m calling about the letter L. Remember, there are lots of ways you can talk about the letter of the day with your child. Ask your child to point to parts of the body that begin with the letter L. Don’t forget lips and legs, and you can even sit down to make a lap! Now click on the Elmo link for the letter L and hand the phone to your child. Elmo is going to talk to your child and show a letter video.</td>
<td>Elmo: Hello letter-lover! It’s your friend Elmo! Elmo wants to tell you about a letter he really loves! It’s the letter L. Elmo knows some things that begin with the letter L. Lettuce, lip, and library! Now, watch this with Elmo! Listen really carefully to this L song for some lovely L words like lemon, laughter, and lollipop!</td>
<td>The Sesame Street clip begins with the Muppets Bert and Ernie discussing what to do with the letter L that is sitting in front of them. Ernie suggests singing about the pretty L words. Bert doesn’t quite understand and sings about lemons, light bulbs, lampposts, and lumps in his oatmeal. And Ernie suggests prettier things like laughter, lullaby, lollipop, and lights in the sky. 2:28</td>
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<tr>
<td>Letter</td>
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<tr>
<td>M</td>
<td>Maria: Hola! It’s your friend Maria from Sesame Street. Today your child will be learning about the letter M. Choose a room in your home with your child, and look for things that begin with the letter M. Don’t forget to make the M sound ... mmmuh-mmmuh! You can look around your child’s room for things that begin with the letter M. MMM-marker, monkey, marble, mat, monster, magazine—these are all mmm-marvelous M words! Now click on the Elmo link for the letter M and give your cell phone to your child to watch a letter video.</td>
<td>Elmo: Hello! Elmo has a letter for you today! But it’s not in the mail. No! It’s on the phone, right here! Today Elmo wants to talk to you about the letter M. Lots of things begin with the letter M. Mouse, mango, mop, and moustache! Now, Elmo has something to show you. Listen carefully to this song for M words. Listen for: marshmallow, meatballs, and macaroni!</td>
<td>The Sesame Street clip features the Muppets Cookie Monster and Harry singing about the wonderful things to eat that begin with the letter M, like marshmallows, meatballs, malted milk, mustard, macaroni, and melon. In the end, the hungry monsters eat the cut-out letter M that has been sitting in front of them. 2:00</td>
</tr>
<tr>
<td>N</td>
<td>Maria: Hi from Sesame Street! It’s me! Your friend Maria! Today’s letter is the letter N. When you’re in the supermarket, help your child look for things that begin with the letter N. It’s a nifty place to find letter N words with your child! Look for noodles, nacho chips, nectarines, and nuts! Everything you do is a chance to learn something new. Look for letters everywhere! Now click on the Elmo link for the letter N and Elmo will show your child a letter video.</td>
<td>Elmo: Hi! Elmo is so happy to see you again! Elmo was just thinking about the letter N. Lots of things begin with the letter N. Nest, nut, and noodle! Now, watch this with Elmo! A video from N-TV! And listen for the nifty letter N words like never, nothing, and nick!</td>
<td>The Sesame Street clip begins with the Muppet Nora Nix, the host of N-TV, the first TV channel that is all letter N, all the time. She introduces the “Letter N” video by Nick Normal and The Nickmatics, which are all Muppets. Nick sings about situations in which he encountered the words nothing, never, and no. The letter N is visible throughout the clip. 2:45</td>
</tr>
<tr>
<td>O</td>
<td>Maria: Hello again! It’s Maria from Sesame Street. Today’s call is brought to you by the letter O. Choose a room in your home with your child, and look for things that begin with the letter O. Look for things that begin with the letter O in the kitchen with your child! You might find an orange, some oatmeal, the oven, or even an olive! Now click on the Elmo link for the letter O and Elmo will show your child a letter video.</td>
<td>Elmo: Hi again Letter Lover! (laugh) Elmo has something new to show you! Elmo wants to tell you about a letter he really loves! It’s the letter O. Elmo knows some things that begin with the letter O. Opera, orange, ox, and octopus! Now, Elmo has something to show you. Watch this and look for the letter O in words like olive, ocean, and ostrich! The letter O! Oh boy! (laugh)</td>
<td>The Sesame Street clip features the Muppets Ernie and a salesman who’s trying to sell him a letter O. The salesman holds a cut-out of the letter O and sings about its selling points. Then he tells Ernie that by buying the O for a nickel, he gets two sounds for the price of one. One sound for words like olive, ostrich, and ox, and another sound for ocean, over, old, and opening. In the end, Ernie turns down the salesman. 2:21</td>
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<tr>
<td>Letter</td>
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<td>P</td>
<td>Maria: Hola! It’s Maria from Sesame Street. Today I’m calling about the letter P. Spend some time with your child talking about the letter P. Don’t forget to make the P sound . . . puh-puh-puh! Look for P foods in your kitchen with your child. Help your child find puh-puh-pasta, pickles, peas, potatoes, pomegranates, or puh-puh-pumpernickel! Now click on the Elmo link for the letter P and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hi again! Elmo wants to show you a new letter today! Elmo wants to tell you about a letter he really loves! It’s the letter P. Elmo can think of some things that begin with the letter P. Hmmm. Let Elmo see. Oh yeah! There’s pancake, pen, and platypus! Now watch this with Elmo! Listen to all the P words in this song. Pay particular attention to pickle, porcupine, and pearl! Pretty please?</td>
<td>The Sesame Street clip begins with a Muppet singing about all of his favorite foods that begin with the letter P, including peanut, pears, and popcorn. A second Muppet sings about all his favorite animals that being with the letter P, such as porcupine, pigeons, panda, and parrot. A third Muppet sings about all of his favorite friends whose names begin with the letter P, like Paul, Percy, Peggy, and Pearl. The letter P is visible throughout most of the clip. 2:05</td>
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<tr>
<td>Q</td>
<td>Maria: Hello! It’s Maria from Sesame Street again. Today’s letter is the letter Q. Remember to look for letters with your child as you go about your day. Look through books or magazines with your child for things that begin with Q. Try to find a queen, a quarter, a quilt, or a quail! Remember to point out the letter Q in words, too! Now click on the Elmo link for the letter Q and Elmo will show your child a letter video.</td>
<td>Elmo: Hello letter-lover! It’s your friend Elmo! Elmo was just thinking about the letter Q. Lots of things begin with the letter Q. Queen, quince, and quilt! Now watch this with Elmo! Listen to this letter Q song and see if you can hear the Q words question, quack, and quart!</td>
<td>The Sesame Street clip features a female Muppet singing about the letter Q. She sings questions for which the answers begin with the letter Q, such as what sound a duck makes or who a king is married to. Grover tries to answer the questions, but doesn’t seem to understand that the answers all begin with the letter Q. The letter Q is visible throughout the clip. 2:48</td>
</tr>
<tr>
<td>R</td>
<td>Maria: Hello! It’s Maria from Sesame Street again. Today’s letter is the letter R. Wherever you are throughout the day, help your child look for things that begin with the letter R. Don’t forget to make the R sound . . . rrruh-rrrruh! Look through your child’s books or toys to find things that begin with the letter R. Try to find a rrruh-rooster, a rabbit, a raccoon, a robin, a ribbon, or anything that’s rrruh-red! Now click on the Elmo link for the letter R and hand the phone to your child. Elmo is going to talk to your child and show a letter video.</td>
<td>Hello! Elmo has a letter for you today! But it’s not in the mail. No! It’s on the phone, right here! Elmo wants to tell you about a letter he really loves! It’s the letter R. Elmo knows some things that begin with the letter R. Rodeo, rat, and rutabaga! Take a look at this! Watch and listen to this letter R song. See if you can remember the R words – roast beef, radish, raisin bread, and ravioli!</td>
<td>The Sesame Street clip is a song about foods that begin with the letter R, such as roast beef, radish, raisin bread, and ravioli. As each food is sung, a picture of the food is shown. The letter R is also visible throughout the clip. 1:14</td>
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<tr>
<td>Letter</td>
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<tr>
<td>S</td>
<td>Maria: Hello! It’s Maria from Sesame Street. Today’s letter is the letter S. Remember to look for letters with your child as you go about your day. You might see: Soap, strawberries, sausages, soda, soup, or sauerkraut! And remember to point out the letter S on signs and labels, too! Now click on the Elmo link for the letter S and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hi! Elmo is so happy to see you again! Today Elmo wants to talk to you about the letter S. Elmo can think of some things that begin with the letter S. Saxophone, sock, spaghetti, and a stop sign! Now, Elmo has something to show you. Watch and listen Sammy the Snake sing his letter S song! Listen for him singing the words seven, sister, and super!</td>
<td>The Sesame Street clip features Sammy the Snake singing about how he looks like and makes the sound of the letter S. Sammy makes his body into the shape of an S, and then he sings about how he makes the “sss” sound of the letter S. He also sings many words that begin with S, including sing, story, seesaw, silly, super, seven, and star. The letter S is visible throughout the clip, either as Sammy’s body or printed on the screen. 2:40</td>
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<tr>
<td>T</td>
<td>Maria: Hola! I’m Maria from Sesame Street. Today I’m calling about the letter T. As you walk or drive around your neighborhood, look for things that begin with the letter T. Don’t forget to make the T sound . . . tuh-tuh-tuh! I think you’ll find lots of terrific T words! Look for a truck, a tuh-tuh-taxi, a tree, a telephone pole, a tuh-tuh-tower, or a tricycle! Now click on the Elmo link for the letter T and Elmo will show your child a letter video.</td>
<td>Elmo: Hi again Letter Lover! (laugh) Elmo has something new to show you! Elmo was just thinking about the letter T. Lots of things begin with the letter T. Telephone, tomato, toast, and tuba! Take a look at this! Watch this terrific video! See if you can find the things that begin with T. Elmo thinks there’s a truck, a tub, and a tree!</td>
<td>The Sesame Street clip is a live action segment that shows a letter T in a truck, in a tub, and riding a tricycle around a tree. The accompanying song is about how terrific the letter T is. 1:05</td>
</tr>
<tr>
<td>U</td>
<td>Maria: Hi, this is Maria from Sesame Street. Today your child will be learning about the letter U. Spend some time with your child talking about the letter U. Look around the house with your child and find things that begin with the letter U. You might find an umbrella or utensils, a uniform, a toy unicorn, or even a pair of underpants! Now click on the Elmo link for the letter U and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hi! It’s Elmo! And guess what? Elmo loves letters! Elmo wants to tell you about a letter he really loves! It’s the letter U. Elmo knows some things that begin with the letter U. Umbrella and underwear. Now Elmo has something to show you! Watch this letter U video and look for the words uncle, umbrella, and ukulele! And also look for all the cool letter U’s!</td>
<td>The Sesame Street clip is a live action segment featuring children holding cut-out and stuffed letter U’s and signs that show the words like Utah, uncle, umbrella, and ukulele. The accompanying song, “My Friend U,” is about the shape of U and the different words that begin with U. 1:36</td>
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<tr>
<td>Letter</td>
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<tr>
<td>V</td>
<td>Maria: Hola! It’s your friend Maria from Sesame Street. Today’s letter is the letter V. You can look for the letter V in books, magazines, and the newspaper, and point each one out to your child. Don’t forget to make the V sound . . . vuh-vuh-vuh! Challenge your child to find things that begin with the letter V. Try to find a vuh-vuh-van, some vegetables, a vest, or a vuh-vuh-vacuum cleaner! Now click on the Elmo link for the letter V and give your cell phone to your child to watch a letter movie.</td>
<td>Elmo: Hello letter-lover! It’s your friend Elmo! Today Elmo wants to talk to you about the letter V. Elmo can think of some things that begin with the letter V. Velvet, van, vegetable, and vest! Take a look at this! Here comes a very funny video! Watch for some very nice V words like voice, violin, and victrola! Va va vooom!</td>
<td>The Sesame Street clip is a live action segment where children and adults say V, sounds that begin with V, as well as words that begin with the letter V, including voice, vocalize, victor, vacuum, vest, very, violin, and victrola. The letter V is visible regularly throughout the segment and when words are said, an image of the object is shown. 1:27</td>
</tr>
<tr>
<td>W</td>
<td>Maria: Hi from Sesame Street! It’s me! Your friend Maria. Today’s letter is the letter W. Remember to look for letters with your child as you go about your day. There are lots of wonderful animals that begin with W. Look through books or toys with your child and point out a whale, a wolf, a weasel, a walrus, or even a warthog! Now click on the Elmo link for the letter W and Elmo will show your child a letter video.</td>
<td>Elmo: Hello! Elmo has a letter for you today! But it’s not in the mail. No! It’s on the phone, right here! Elmo was just thinking about the letter W. Lots of things begin with the letter W. Watermelon, walrus, wand, and wiggle! Take a look at this! You’re going to say “wow” when you watch Bert sing this song! Listen for the W words like wash, wax, wiggle, walrus, and wood! Would you please?</td>
<td>The Sesame Street clip features Bert leading the weekly meeting of the National Association of W Lovers. During the meeting, he leads the group in the club song about the wondrous sound the W makes. The song includes that without the W, many words wouldn’t exist, including walrus, wash, wax, wiggle, wet, warm, or wood. The letter W is visible throughout. 2:43</td>
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<tr>
<td>X</td>
<td>Maria: Hello again. It’s Maria from Sesame Street. Today’s I’m calling about the letter X. When you’re in the car or walking around outside, look for letters on stores and street signs. X words can be hard to find, but that’s what makes finding them extra fun! There are X-ray and xylophone, of course. But you can also find X’s in exit signs and on extra cheese pizza! Don’t give up. X marks the spot! Now click on the Elmo link for the letter X and hand the phone to your child. Elmo is going to talk to your child and show a letter video.</td>
<td>Elmo: Hi! Elmo is so happy to see you again! Elmo wants to tell you about a letter he really loves! It’s the letter X. Elmo knows some things that begin with the letter X. Xylophone and x-ray! Now watch this with Elmo! Sherlock Hemlock has an exciting song about the letter X! Watch for the X in X-ray and in xylophone!</td>
<td>The Sesame Street clip features the Muppet Sherlock Hemlock singing about the letter X, including the shape of the letter. He sings about the X-ray machine and that an X can be used to indicate danger on poison or on railroad crossing signs. The letter X is visible throughout the clip. 1:42</td>
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<tr>
<td>Letter</td>
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<tr>
<td>Y</td>
<td>Maria: Hola! It’s Maria from Sesame Street. Today your child will be learning about the letter Y. Remember, there are lots of ways you can talk about the letter of the day with your child. Look around the house for things that begin with the letter Y! You may find some yarn, a packet of yeast, a yo-yo, and lots of things that are yellow! Now click on the Elmo link for the letter Y and give your cell phone to your child to watch a letter movie. Elmo: Hi again Letter Lover! (laugh) Elmo has something new to show you! Today Elmo wants to talk to you about the letter Y. Elmo can think of some things that begin with the letter Y. Yellow, yam, and yummy! Now Elmo has something to show you! Watch this letter Y video. Look for the Y words like yell, yellow, and yo-yo! Yippee!</td>
<td>The Sesame Street clip is a live action segment featuring children playing with a large cut-out Y. The children also mention words like yellow, yell, yodel, and yo-yo. Each of these words are shown or acted out. 1:30</td>
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<tr>
<td>Z</td>
<td>Maria: Hello! It’s Maria from Sesame Street again. Today’s letter is the letter Z. Wherever you are throughout the day, help your child look for things that begin with the letter Z. Want to find some zippy letter Z words? Zip up your zipper, go to the zoo, and look for the zebra! Now click on the Elmo link for the letter Z and Elmo will show your child a letter video. Elmo: Hi again! Elmo wants to show you a new letter today! Elmo was just thinking about the letter Z. Lots of things begin with the letter Z. Zucchini, zero, zoo, and zipper! Take a look at this! Watch this letter Z video and look for the zebra and the zipper!</td>
<td>The Sesame Street clip is a music video of a Muppet band singing about the Z Z blues caused by not enough Z words. The singer is sick of singing about the regular Z words like zippers, zoos, zebra, and would rather sing about Zanzibar or zithers. He eventually falls asleep to catch some Z’s. The letter Z is visible throughout. 2:41</td>
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APPENDIX B
TRAINING MATERIALS

Participant Letter (Southern California example)
Training Location Directions (Southern California example)
Training Session Agenda
Training Presentation
Sesame Workshop Pamphlet
Participant Welcome Letter
Phone Activation Instructions
GoTV Registration Instructions
Cell Phone Bookmarking Instructions
Memorandum of Understanding
WestEd Check Information Form
Participant Pre-Intervention Survey
Participant Demographic Questionnaire
Greetings Parent,

First, I would like to thank you for agreeing to participate in the PBS *Ready To Learn* Cell Phone Study: Learning Letters with Elmo. As you know, the study is being funded by the U.S. Department of Education and is investigating how cell phone technology can aid children's literacy. The study begins the week of May 8\textsuperscript{th} and goes through July 14\textsuperscript{th}.

During the week of May 8\textsuperscript{th}, parents need to attend one training session. If you have not already scheduled a training session with a WestEd representative, please call the number below to schedule a session as soon as possible.

At the training, parents will transfer their cell phone number from their current phone to the Sprint Power Vision Phone A900 Blade by Samsung\textsuperscript{®}. Parents also will be trained on how to download the video clips from PBS and how to share these clips with their child. The training will take about one and a half hours to complete.

**Be sure to bring your current cell phone to the training session.**

To schedule a training session (if you have not already done so) contact April Haagenson toll free at (877) 938-3400, ex. 5485.

Maps, directions, and parking information for the training location are enclosed.

Thank you again for being a part of this important study.

Sincerely,

Jordan E. Horowitz
Senior Project Director
Southern California Training Location

Location:
WestEd Building
4665 Lampson Ave.
Los Alamitos, CA 90720

Parking information:
Park in the lot adjacent to the WestEd building, parking is free.

Directions: (from 405 North or South)
Exit Seal Beach Blvd. from the 405
Turn right off the freeway (towards Los Alamitos)
Turn right on Lampson Ave.
Drive for about 1.5 miles on Lampson Ave
WestEd building is on the left side after the golf course

Maps:
PBS Ready to Learn Cell Phone Study: Learning Letters with Elmo

Training Session Agenda

- Introductions
- Survey and phone activation
- Literacy and your child
- Expectations of the study
- Phone Training
- Closing, signing MOU, and finish survey
Today’s Agenda
- Introductions
- Survey and phone activation
- Literacy and your child
- Expectations of the study
- Phone training
- Closing, sign MOU, complete demographic information, and remuneration form

In Your Folder
- Letter from Jordan Horowitz, our project director
- Agenda
- Pamphlet about the project
- Survey
- Memorandum of Understanding (MOU)
- Demographic information
- Remuneration information

The Road to Literacy
- You are your child’s first and most important teacher
- Three and four-year-olds have a natural curiosity about the world around them
- Learning through play is an important step on the road to literacy

Discovering the Alphabet
- Children see words all around them (on street signs, food labels, mail, computer and television screens and more)
- Read together (use reading as an opportunity to point out words and label pictures)
- Point out letters and encourage children to write. Remember that scribbling is the first step in learning to write.
More Fun with Letters

• Combine learning letters with simple, everyday activities. For example:
  – While at home, invite your child to help you make a shopping list
  – While cooking or doing the laundry, talk about a sound a letter makes. Then think of as many words as you can that start with that sound.
  – At the grocery store, go on a hunt for “B” foods

Write your child’s name in lots of places
• Keep books handy for your child
• Together, name pictures of objects in magazines and create homemade books
• Sing the alphabet song
• Turn three or four days per week into Letter Days via Learning Letters with Elmo

Your Obligations

• Have at least three Letter Days each week, which includes viewing the Maria and Elmo messages
• Record your viewing on the project pamphlet
• Complete the survey, sign the MOU, and provide demographic information
• Participate in interviews after the project ends and complete the second survey

The Samsung A900 Blade
Two things to remember...

• Charge the phone regularly. (The charge plug is on the left side of the phone, next to the Talk button.)

• Reception will affect the video quality

Text Messages

When a new text message arrives, a red light on the phone will blink, an alert tone will sound, and the screen will display a message.

To access text messages on a Letter Day:
• Press Menu/OK
• Scroll to and select Messaging
• Scroll to and select Text Messages
• Select Inbox
• Scroll to and select the message you want to read

Getting Maria’s and Elmo’s Messages

To access the messages from Maria and Elmo and the letter videos:
• Press Menu/OK
• Scroll to and select Web
• Press the upper right button for Menu
• Scroll to and select View Bookmarks
• Scroll to and select Learning Letters with Elmo

Once you are viewing the Learning Letters with Elmo menu, scroll to and select the link to Maria’s or Elmo’s messages for the letter you want.
Thank you!
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

**Letters Checklist**

As you complete each Letter Day, check it off and fill in that day’s date on this letter checklist.

**Contact**
April Haagenson
Phone: (877) 938-3400, ext. 5485
ahaagen@wested.org

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**More Fun with Letters**

Here are some other ideas for activities you can use in your everyday routines that will continue to support your child’s learning:

- Your child’s name is one of the first words he or she will learn to read and write. Write it in lots of places, and help your child make a placemat, a sign for the bedroom door or a picture for the refrigerator that has your child’s name written on it.

- Keep books handy for your child to look at and let your child pick out books for you to read together. Most children love reading a favorite book over and over again.

- Look for words around the house or neighborhood that you can read with your child — on cereal boxes, recipes, signs, etc. Point out the first letter of a word and ask your child what sound that letter makes. Say the word together with your child, exaggerating and emphasizing the sound of the first letter. Always take every opportunity you can find to talk with your child about the sounds in familiar words.

- Help your child to name pictures of objects that you find in magazines. Working together, cut and paste the pictures into a homemade book, writing the names of the objects clearly under each picture. Over time, you might find one picture for every letter of the alphabet, and make your own alphabet book.

- Sing the alphabet song with your child. Sometimes you can stop on a particular letter and ask your child to find something that begins with that letter, or help your child try to write that letter. Once children get used to playing this game, they love to be the ones who get to choose where to stop in the song and which letter to focus on.

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**Cell Phone Study:**

**Learning Letters with Elmo!**

**The Road to Literacy**

You are your child’s first and most important teacher and guide on the road to literacy.

Three- and four-year-old children have a natural curiosity about the world around them and a growing interest in words and letters. They begin to notice letters everywhere! As children discover words, they start to notice how words are made up of individual letters, and how each letter has its own sound and look.

The PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo will give you many fun ways to encourage your child’s interest in words and letters. Over the next eight weeks, you can explore all 26 letters of the alphabet with your child. Using video clips hosted by Elmo and ideas from Sesame Street’s Maria, you can turn three or four ordinary days of each week into “Letter Days.”

Helping your child play games with letters and words is an important step on the road to literacy. Use Learning Letters with Elmo to make letter play an easy and fun part of your child’s day.

**Learning Letters with Elmo!**

Thank you for participating in the Learning Letters with Elmo project. Your participation in this study will provide us with important information about how we can use cell phones to help parents and caregivers provide interesting and motivating literacy experiences for their children.
Learning Letters with Elmo: What to Expect

Over the course of eight weeks, you will have an opportunity to explore all 26 letters of the alphabet with your child. We encourage you to turn 3 or 4 days per week into “Letter Days.” On each Letter Day you and your child can focus on one letter of the alphabet. Here are some ways to make Letter Days special, starting with the letter “A” on the first day:

- Use your cell phone to access a message from Sesame Street’s Maria to you, suggesting some fun ways to highlight the letter “A” throughout your daily routine with your child.

- Use the phone to click on a link to a message from Elmo and a Sesame Street segment about the letter “A” for your child.

- Afterwards, throughout the day, you can follow some of Maria’s suggestions or use your own ideas for helping your child learn about the letter “A” in your own home or neighborhood.

- Once you’ve completed your Letter “A” Day, you can check it off and fill in that day’s date on the Letter Checklist, and get ready for fun with the letter “B” on your next Letter Day.

- You and your child can always go back and see Elmo’s messages and video segments from previous weeks by visiting the “Letter Library.”

About the Sprint Power Vision A900

Charging the Phone
Watching videos and using the Internet on your phone uses up the phone battery faster than making calls. We suggest charging your phone whenever possible.

Volume
To increase or decrease the phone’s volume, press the up or down arrows on the left side of the phone.

Reception and Video Quality
The quality of the video may vary based on your location. If you are deep inside a building and far from windows, you may not be able to make calls or watch videos. In general, a stronger signal will provide better reception. The strength of the signal is visible at the top of the phone’s screen — more vertical bars means a better signal. One or no bars means a very weak or no signal. At times, the video may blur or rebuffer in the middle of the clip. If this happens, please check that you have good signal strength.

If a lot of people are using the Sprint Power Vision network to watch videos, you might receive a message that the video timed out or that the server is busy. If this happens, please try again later. However, if you continue to receive this message, please contact the study representative, April Haagenson, at (877) 938-9400 ext. 5485.

Text Messages
When a new text message arrives, a red light on the phone will blink, an alert tone will sound, and the screen will display a message. To read a new message or to access saved text messages:

- Press Menu/OK
- Use the silver scroll wheel to select Messaging
- Scroll to and select Text Messages, or press the 2 button
- Select inbox, or press the 1 button
- Scroll to and select the message you want to read

To follow a URL that is included in the text message, select Options (the upper right button) then select Go or press the 1 button.

Getting Maria’s and Elmo’s Messages
To access the messages from Maria and Elmo and the letter videos:

- Press Menu/OK
- Use the silver scroll wheel to select Web. (If you are prompted whether to connect to the Internet, press Menu/OK)
- Press the upper right button for Menu
- Scroll to and select View Bookmarks or press the 4 button
- Scroll to and select Learning Letters with Elmo or press the 2 button
- Once you are viewing the Learning Letters with Elmo menu, scroll to and select the link to Maria’s or Elmo’s message for the letter you want. The Sesame Street video for that letter will automatically play after Elmo’s message.

To stop watching a message from Maria or Elmo and return to the letter menu, press the upper left button or the upper right button.
Greetings Parent,

Welcome to the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo Training. I would like to thank you for agreeing to participate in this study. This study is being funded by the U.S. Department of Education and is investigating how cell phone technology can aid children's literacy. The study begins the week of May 8th and goes through July 14th.

Today you will learn important information about the study, including how to use your Sprint Power Vision Phone A900 Blade by Samsung®, how to download the video clips from PBS, and how to share these clips with your child.

During the week of July 10th, parents will return to complete another survey and take part in a group interview with other parents who participated in the study. At this group interview, WestEd staff will ask parents for their opinions of the program and the benefits to their child. You will be contacted in June by WestEd staff to schedule a group interview. Parents who complete all of their project obligations will receive a $50 check at this time also.

Please feel free to contact me with any questions or concerns toll-free at (877) 938-3400, ex. 5122.

Thank you again for being a part of this important study.

Sincerely,

Jordan E. Horowitz
Senior Project Director
To activate your phones, call:

888.788.4727

Press 1

A representative will assist you through the process.

When you’ve finished activating, ask to have the $15 PowerVision service added.

You do not need to add a text messaging plan if you do not already have one.
Learning Letters with Elmo GoTV Registration

GoTV needs you to take one last step before they can send the video messages to your phone. You need to send the text message “ELMO” to 47988. You do not have to worry if the word “ELMO” is all capital letters or not. To do so:

1. Press Menu/OK
2. Press down on d-pad once to “messaging”
3. Press Menu/OK
4. Press Send Message
5. Press Menu/OK, when prompted Text Message
6. Press down on d-pad once to “Mobile #”
7. Press Menu/OK
8. Enter 47988
9. Press Menu/OK
10. Press next (left soft key)
11. Enter ELMO (press 3-key two times, 5-key three times, 6-key once, 6-key three times)
12. Press Next (left soft key)
13. Press Send (left soft key)
And you’re done!
To ensure you properly access the Learning Letters with Elmo site with your phone, we suggest you do one of the following:

1. **Bookmark the Learning Letters with Elmo site:**

   - Press Menu/OK
   - Scroll to and select Web
   - Select Menu
   - Select Go to URL
   - Type in:  
     `http://dev/gotvnetworks.com/sesame/index.xhtml`
   - Select Go
   - Once on the site, select Menu
   - Mark this page
   - Type in: `Learning Letters with Elmo`
   - Select Save
   - Select OK

   or

2. **When you receive a text message with a link to the site,**
   *Go to the site by following the directions in the text message and then:*

   - Press Menu
   - Select “Mark this Page”
   - Scroll down until the “Title” box is highlighted
   - Type in: `Learning Letters with Elmo`
   - Press Menu/OK
Memorandum of Understanding between
__________________ and WestEd
(print parent name)

___________________ ("Parent") and WestEd enter into this Memorandum of Understanding (MOU) for the purpose of collecting data regarding a cell phone download service as part of the Public Broadcasting Service (PBS) Ready To Learn Cell Phone Study: Learning Letters with Elmo ("Study").

The purpose of this MOU is to detail responsibilities and expectations for the Parent and WestEd as both parties work together to improve literacy among Parent’s pre-school age children. The term of this MOU is from May 1, 2006 to July 31, 2006. WestEd plans to survey Parent in May 2006 and again in July 2006. WestEd also plans to facilitate a group interview with Parent in July 2006.

The Parent agrees to the following:
• Attend a training session during the week of May 8-12, 2006, to learn about the Study and how to use the provided cell phone.
• Provide WestEd with necessary demographic information through a pre-Study survey to be completed at the initial training session in May 2006 (e.g., date of birth, income level, etc.).
• Download PBS Ready To Learn video clips on the provided cell phone at a minimum of 3 times per week during the 8-week Study from May 15, 2006, to July 7, 2006, and share these clips with Parent’s 3- or 4-year-old child.
• Attend a group interview during the week of July 10-14, 2006, to share experiences during the Study with WestEd.
• Complete a post-Study survey to be completed on the day of the group interview in July 2006.

WestEd agrees to the following:
• Adhere to regulations and standard practices for ensuring safety of human subjects.
• Provide the Parent with a Sprint Power Vision Phone A900 by Samsung® to be used for the Study.
• Upgrade the Parent’s Sprint service to include Power Vision Service for the duration of the Study.
• Provide the Parent with the pre- and post-Study surveys.
• Provide the Parent with a schedule of pre-Study training dates.
• Provide the Parent with a schedule of post-Study group interview dates.
• Maintain anonymity of the Parent’s identity in all published reports about the Study.

Parent and WestEd agree that either of them may cancel this MOU at any time by giving 30-days written notice in advance. Any alterations to the terms of this MOU must be agreed to by both the Parent and WestEd and be made in writing. All notification between agencies should be directed to Jaclyn Ziobrowski (see contact information below).
Upon satisfactory completion of Parent’s responsibilities, WestEd will remunerate the Parent $50.00 for participation in the Study and fulfillment of all Study requirements. The $50.00 will be distributed at the end of the Study.

If Parent completes the Study requirements, Parent will be permitted to keep the Sprint Power Vision Phone A900 by Samsung® upon completion of the Study. If Parent fails to complete the Study requirements, Parent must return the cell phone to WestEd and will forfeit the $50 remuneration.

If Parent has any questions at any time during the Study, please contact Jaclyn Ziobrowski, the project coordinator, at jziobro@wested.org or (toll-free) 1-877-938-3400, ext.5420.

Parent and WestEd acknowledge their agreement to the terms and conditions of this Memorandum of Understanding by signing below.

_________________________________  _______________________________________
[Name of Parent]  WestEd

Signature  Signature

Name  Jordan Horowitz

Senior Project Director

Title

_________________________________  ________________________________
Date  Date

_________________________________
Date

Telephone number  562-799-5122

Telephone number
WestEd Check Information Form

The information you provide on this form will be used exclusively by WestEd’s Accounting Department to process your $50 remuneration for completion of the study requirements. WestEd will provide these checks to participants at the group interview session the week of July 10th.

Name

Address

City  State  Zip

Home Phone Number (  ) -

Social Security Number - -
(If you do not know your SSN or if you do not have one, you may leave this blank)
PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo Parent Pre-Intervention Survey

ID#: ______________________________

Please complete this survey as it relates to your 3 or 4 year old child who will be watching the PBS video clips on the provided cell phone. Please answer all the questions the best you can. We want your honest opinions and thoughts. You may skip any items you would rather not answer. Thank you!

Child’s Date of Birth: ____________________

month   day   year

Child’s Gender:  ☐ Female  ☐ Male

Your Gender:  ☐ Female  ☐ Male

What is your 5-digit zip code: ___ ___ ___ ___
1. What is your relationship to the child? (check one)
   - Mother
   - Father
   - Other: ___________________________

2. About how many children’s books and magazines does your child have in your home now? (including library books)
   Number of books: ________
   Number of magazines: ________

3. Indicate your child’s reading level by checking the appropriate box:
   - My child “pretends” to read (makes up a story out loud from the pictures in the book).
   - My child remembers some words of familiar books.
   - My child reads familiar books on his/her own.
   - My child is able to read most books for his/her age.
   - My child reads books more advanced than his/her age group.
   - None of the above

4. How often do you read aloud to your child?
   - Never
   - 1-3 times per month
   - 1 time per week
   - 2-4 times per week
   - 5 times per week/daily

5. When you are reading a book to your child, how often do you:

   Read all of the text in the book .................. ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
   Point to the pictures and label them .......... ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
   Point to the words in the book ............... ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
   Ask your child to label the pictures (“what’s this”) or point to certain pictures (“where is the tree”) ....................... ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
   Ask your child to point to letters or words in the book .................................................. ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
   Ask your child to predict what will happen next or explain why something happened .................................................. ❑ Never ❑ Hardly ever ❑ Sometimes ❑ Most of the time ❑ Almost every time
6. When you are reading a book to your child, how often does your child:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the pictures</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Point to the pictures</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Turn the pages</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ask questions</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Point to letters or words</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Make comments about the story or pictures</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

7. About how many hours a day does your child usually watch:
   a) Broadcast television:
      - ☐ Less than 2 hours
      - ☐ 2 – 3 hours
      - ☐ 4 – 5 hours
      - ☐ 6 hours or more
   b) DVD’s and videos:
      - ☐ Less than 2 hours
      - ☐ 2 – 3 hours
      - ☐ 4 – 5 hours
      - ☐ 6 hours or more

8. How often does your child watch the following PBS television programs at home?

<table>
<thead>
<tr>
<th>Program</th>
<th>Never</th>
<th>1-3 times per month</th>
<th>1 time per week</th>
<th>2-4 times per week</th>
<th>5 times per week/daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthur</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Barney</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Between the Lions</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clifford, the Big Red Dog</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Dragon Tales</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Maya &amp; Miguel</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Postcards from Buster</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reading Rainbow</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sesame Street</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

9. Do you have an Internet connection or have access to it? *(check all that apply)*
   - ☐ No access to the Internet *(please skip to question 10)*
   - ☐ Yes, I have access to the Internet at home
   - ☐ Yes, I have access to the Internet at work
   - ☐ Yes, I have access to the Internet elsewhere
10. How often do you or your child do the following Internet-related activities?

- I go to the PBSPARENTS.ORG website ...........☐ 1-3 times per month ☐ 1 time per week ☐ 2-4 times per week ☐ 5 times per week/daily ☐
- I go to the PBSKIDS.ORG website ...............☐
- My child goes to the PBSKIDS.ORG website.................................☐

11. If your child goes to the PBSKIDS.ORG website, what does he/she do while on that website? (check all that apply)
- Look at a show-specific page
- Play games
- Read stories
- Listen to music
- Print pictures to color

12. How many letters in the alphabet does your child know?
- None
- Some
- Most
- All

13. Does your child know any of the letters in his/her name?
- Yes ☐ No ☐ Don’t know ☐

14. Does your child point out letters from the alphabet when he/she sees them (for example, in your home or when riding in the car)?
- Yes ☐ No ☐

15. Is your child currently being taught the letters in the alphabet?
- Yes ☐ No (skip to question 17) ☐ Don’t know (skip to question 17) ☐

16. If you answered yes to question 15, where is your child learning the letters in the alphabet? (check all that apply)
- At home from parent(s)
- In preschool/childcare center
- Private tutor
- From older sibling(s)
- From a book
- From a TV/DVD program, name: __________________________
- From a computer program (ex. Leapfrog), name: __________________________
- Other: __________________________
17. What is the most accurate description of your child’s knowledge of the ABC alphabet song?

- Child can sing all of the letters in the proper order
- Child can sing some of the letters in the proper order
- Child can sing the song but does not yet sing any letters in the proper order
- Child does not know this song
- Other: __________________________

18. How often do you do these kinds of activities with your child:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art or other projects that include writing your child’s name or writing letters of the alphabet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to look for letters on signs or on printed material around the house (for example, on street signs, food labels, cereal boxes and so on)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talk to your child about the sounds in familiar words</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to find objects around the house that start with certain letters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sing the alphabet song with your child</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. How long have you had a cell phone?

- Less than 6 months
- 2 years to 5 years
- 6 months to 1 year
- More than 5 years

20. How many people live in your household (including yourself)?

- 2
- 3
- 4
- 5
- 6
- Other: ______

21. Of the people who live in your household, how many have a cell phone?

- 1
- 2
- 3
- 4
- 5
- 6
- Other: ______
22. Do you ever use your cell phone to: *(check all that apply)*
   - [ ] Talk to another person
   - [ ] Text messages to another person
   - [ ] Play games
   - [ ] Download items such as ring tones, wallpaper, backgrounds, jokes, pictures
   - [ ] Other: ___________________________

23. Does your child ever use your cell phone now to: *(check all that apply)*
   - [ ] Does not use phone at all
   - [ ] Talk to another person
   - [ ] Pretend to talk to another person
   - [ ] Play games
   - [ ] Play with the phone
   - [ ] Other: ___________________________

24. Do you have any concerns about having your child use a cell phone: *(check all that apply)*
   - [ ] No concerns
   - [ ] Breaking the phone
   - [ ] Using up minutes
   - [ ] Calling people accidentally
   - [ ] Other: ___________________________

Thank you for participating in this important study. If you have any questions, please contact the project coordinator at WestEd, Jaclyn Ziobrowski, by email at jziobro@wested.org or telephone toll free at 877-938-3400, extension 5420.
Participant Demographic Questionnaire

1. In what year were you born? ____________

2. What was the last grade in school you completed?
   - [ ] 8th grade or less
   - [ ] Associate/AA degree
   - [ ] Some high school
   - [ ] College degree
   - [ ] High school diploma
   - [ ] Some graduate courses
   - [ ] Some college
   - [ ] College degree
   - [ ] Graduate degree

3. What is your current marital status? (check most appropriate category)
   - [ ] single, never married
   - [ ] married/domestic partnership
   - [ ] separated/divorced
   - [ ] widowed

4. What is your employment status? (check most appropriate category)
   - [ ] Employed full time
   - [ ] Employed part time
   - [ ] Stay at home parent
   - [ ] Retired

5. How would you describe your race/ethnicity (check all that apply)?
   - [ ] White/Caucasian
   - [ ] Black/African American
   - [ ] Latino/Hispanic
   - [ ] Native American/Alaskan Native/Hawaiian Native
   - [ ] Asian American/Pacific Islander
   - [ ] Other: __________________________

6. Does your 3 or 4 year old child have a disability? (please answer for a, b, and c below)
   a) Learning disability  [ ] Yes  [ ] No
   b) Behavioral disability  [ ] Yes  [ ] No
   c) Physical disability  [ ] Yes  [ ] No

7. What category best matches your annual yearly income?
   - [ ] $0–32,760
   - [ ] $32,761–35,100
   - [ ] $35,101–39,000
   - [ ] $39,001–45,240
   - [ ] $45,241–51,480
   - [ ] $51,481–52,644
   - [ ] $52,645+
8. How many hours per day are you with your child (not including time the child is sleeping/napping)?
   - Less than 1
   - 1 to 3
   - 4 to 7
   - 8 to 10
   - More than 10
APPENDIX C
RECRUITMENT MATERIALS

Recruitment flyer

PBS Evaluation telephone screening for CPS participants

PBS Evaluation telephone screening for CPS Child Care Centers

Participant letter

Child Care Center letter

Child Care end recruitment letter
Attention Parents!

Would you like an extra $50 in your pocket and a BRAND NEW cell phone? (retail value $349)

If you have a 3-4 year old child & are a SPRINT® cell phone user, you may be eligible to participate in an exciting new study that will benefit your child’s early literacy skills.

For information please contact:
April Haagenson
Toll Free at (877)938-3400 ext. 5485
Hello, my name is [XX] and I'm with WestEd, an educational research organization, working with PBS on a project for their Ready to Learn service, and we are recruiting parents of children ages 3-4 in your area.

Our project is looking at a new PBS cell phone download service, and it will begin in a few weeks and go through July 2006. Participation will involve:

- Downloading PBS Ready To Learn “Letter of the Day” messages from Sesame Street characters on a provided cell phone (Samsung Blade, which retails for $395) and share the messages with your child every day, Monday-Saturday for 8 weeks;
- Participating in two 1-hour group interviews with WestEd researchers; and,
- Completing surveys at the beginning and end of the study about your use of cell phones and experience with this project.

You will receive $50 compensation for your commitment to participate and cell phone service that allows you to download information from the Internet during the study period.

First, I would like to verify some information (we may already have this information on file—CHECK SPELLING):

Name:

Phone number (s):

Mailing Address:

Email Address:
Q1. Do you currently use Sprint cell phone service?
   Yes  No (end call)

Q2. Do you have a child age 3 or 4?
   Yes  No (end call)
   [Must be 3 by May 1, 2006 and 4 until June 26, 2006]

Q3. How did you hear about this study?
   Child care center:__________________
   Friend
   Other:__________________

Q4. In 2004, what was your total household income from all sources?
   $0-12,830  $12,831-16,090  $16,091-19,350  $19,351-22,610
   $22,611-25,870  $25,871-29,130  $29,131-32,390  $32,391+

Q5. How many people live in your household?  Remember to count yourself!
   # Adults:__________  # Children:__________
   (18 Years and older)  (Under 18 Years)
Q6. Do you know any other parents of children ages 3 or 4 who use Sprint cell phone service who may be interested in participating?

Yes

No

If yes, name:________________________

What is the best way to contact this parent?

By phone:__________________(phone number)

Mail flyer to home:______________________(address)

Email:_________________________(email address)

Caller passes on flyer

Meet during our visit the week of April 3rd.

Other:________________________________

We are also planning a visit to your area in early April. We need to meet with you at that time to get some forms signed and answer any questions you may have about participating in the study.

Thank you for your time, we know you are very busy. We will be in touch to let you know whether or not you will be included in the study.
Hello, my name is [XX] and I'm with WestEd, an educational research organization, working with PBS on a project for their Ready to Learn service. May I please speak to your center director? [Repeat Intro] I am contacting you because we are recruiting parents of children ages 3-4 in your area, and we know the best place to find these parents is at preschools and child care centers.

Our project is looking at a new PBS cell phone download service; it is not an evaluation of your child care center. The project will begin in a few weeks and go through July 2006. Your center’s participation only will involve helping us to identify parents of 3-4 year olds. We would ask you to distribute a flyer to your parents. We also would ask you to allow us to meet with parents at your center to talk with them about the project, for example, when they drop off or pick-up their children.

Now let me tell you about the project:

• Parents will download PBS Ready To Learn “Letter of the Day” messages on a provided cell phone and share the messages with their child;
• Parents will participate in two 1-hour group interviews with WestEd researchers; and
• Parents will complete surveys at the beginning and end of the study about their use of cell phones and experience with this project.

Parents will receive $50 compensation for their commitment to participate, and your child care center will receive a collection of Sesame Street books for your center.

I understand there are a lot of decisions to be made by individual parents, but are you interested in helping us identify parents for this project?

Yes  No
Do you have a few minutes to answer some questions about your center?

Yes (Continue)

No. OK, when would be a more convenient time to call you back? Time: 

First, I would like to verify some information (we may already have this information on file—CHECK SPELLING):

Center Name:

Contact Name:

Contact Title:

Phone number (s):

Mailing Address:

Email Address:

Q1. What is your role at the child care center?

   Director

   Owner

   Other: ___________________________

Q2. How many children ages 3-4 attend on an average day?

   Number:___________

Q3. How many parents (counting one parent per child and accounting for siblings) have kids at your center?

   Number:____________
Q4. Is your center home-based?

Yes           No

Q5. What is the primary language at your center?

   English
   Spanish
   Other: ____________________ (end call)

Q6. What is the typical income level of your parents? We’re asking this because we are supposed to focus on low-income families.

   $0-12,830
   $12,831-16,090
   $16,091-19,350
   $19,351-22,610
   $22,611-25,870
   $25,871-29,130
   $29,131-32,390
   $32,391+

Q7. We need to find space to interview the parents at the beginning and end of the study. Would your child care possibly be available for a parent meeting?

   Yes           No

We will send your center parent information forms for you to send home with parents of 3 to 4 year-olds. You can expect them in the next couple of days. We are also planning a visit to your area the week of April 3, 2006. We would like to come in and meet with interested parents to answer any questions they may have about participating in the study.

We also are interested in speaking with other child care centers in your area about participating in this project. Do you know of other centers in your area that we may contact?

Name of daycare/preschool: ____________________
Phone number: ____________________
Contact Name: ____________________

Name of daycare/preschool: ____________________
Phone number:________________
Contact Name:________________

Thank you for your time, we know you are very busy. We will be in touch to let you know whether or not you will be included in the study.
Greetings,

This letter is to inform you about your participation in the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo. WestEd, an educational research organization, is currently partnering with PBS, Sesame Workshop, and the US Department of Education for this project that is investigating how technology can aid children's literacy. We are recruiting parents of children ages 3-4 to participate in this study.

The study begins in May and goes through July. For the study, parents will be given a Samsung Blade A900 Cell Phone (retails for $349).

With this phone, parents will be required to:
• download “Letter of the Day” video clips from PBS and show these clips to their child
• complete 2 surveys (one at the beginning and one at the end of the study)
• attend a training session in May on how to use the phone and download the messages
• participate in a group interview in July

For satisfying the study requirements, parents will keep the cell phone and will be given $50 for their time.

Parents must meet all of the following criteria in order to participate:

1. Must be English-speaking
2. Must have a 3 or 4 year old child
3. Must be a monthly Sprint cell phone user (not on a prepaid plan and not with Nextel)
4. Must live in the Los Angeles, Orange County, or Oakland areas

If you have any additional questions regarding participation, please contact me via email or phone.

Thank you for your time,

[name]
Evaluation Research
WestEd
4665 Lampson Ave
Los Alamitos, CA 90720
877-938-3400 ex. [xxxx]
[email]@wested.org
Child Care Center Letter

Greetings [name],

I’m following up regarding your center’s participation in the PBS Ready To Learn Cell Phone Study. WestEd currently is working with PBS, Sesame Workshop, and the U.S. Department of Education on a project for Ready to Learn. We are recruiting parents of children ages 3 - 4 years old in your area to participate.

Our project is exploring the effectiveness of a new cell phone download service. The project will begin in a few weeks and go through July 2006. Your center’s participation only will involve helping us to identify parents who meet the study criteria. Participation includes: (a) distributing a flyer to your parents and (b) allowing us to talk to parents at your center to inform them about the project. Your center will receive a collection of Sesame Street books to add to your library as a “thank you” for participating.

The project requires parents to:

• Download a PBS Ready To Learn “Letter of the Day” message on a cell phone provided to them by the project and share the messages with their child;
• Participate in a one hour group interview with WestEd researchers at the end of the project; and
• Complete surveys at the beginning and end of the study about their cell phone use and project experiences.

Parents will receive $50 compensation and a cellular phone for their commitment to participate.

Included in this package is a document that outlines the study for you to review, [and a sample of the flyer that will be distributed to parents of 3-4 year old children] OR [flyers to pass out to parents of 3-4 year old children, and a large poster to display in your lobby to inform parents about the study.]

If you have any questions, you can contact me, toll free, at (877) 938-3400 ext. 5485. I look forward to talking with you!

Thank you,

[name]
Evaluation Research
WestEd
4665 Lampson Ave
Los Alamitos, CA 90720
877-938-3400 ex. [xxx]
[email]@wested.org
Greetings!

I’m following up with you regarding your center’s participation in the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo.

Thanks to your efforts and the efforts of other child care centers, we were able to recruit enough parents of children ages 3 - 4 to meet our recruitment goal. WestEd will be providing your center with a collection of Sesame Street books to add to your library as a “thank you” for assisting us. These books will be arriving at your center soon and will be addressed to the director.

At this time, we request that you remove all study posters and flyers from your center walls, countertops, and cubbyholes, and discard them.

If you have any questions, feel free to contact me toll-free at (877) 938-3400, ext. 5424.

Thank you again for your interest and enthusiasm regarding this important study.

Jodie Hoffman
Project Coordinator
WestEd
APPENDIX D
COMMUNICATION MATERIALS

Participant Follow-Up Letter

Participant Reminder Postcard

Participant Drop Letter
Greetings,

We are now concluding week 3 of the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo. I want to start off by thanking you for your continued participation in this important study. As the 8-week study period progresses, however, I want to remind you to continue to fulfill all the study requirements (as listed below):

- **Stream PBS Ready To Learn** video clips on the provided cell phone at a minimum of 3 times per week during the 8-weeks from May 15, 2006, to July 7, 2006, and share these clips with your 3- or 4-year-old child.
- **Attend a group interview during the week of July 10-14, 2006**, to share experiences during the study with WestEd.
- **Complete a post-study survey to be completed on the day of the group interview in July 2006**.

As an additional reminder ~ it is not necessary to wait to receive the text message for you to stream the letters. The text message only serves as a reminder to you.

**We will be contacting you during the week of June 19th to schedule a group interview session.** This session will take approximately 90 minutes and various days and times will be available. When we call to schedule the session, we will also ask you if you want to keep the Powervision service from Sprint. If you choose to keep Powervision after the study is over, you will be required to pay for this service at the rate of $15 per month. If you do not want to keep the service, simply tell us this when we call and it will be removed from your plan at the conclusion of the study.

Your attendance at a group interview session during the week of July 10-14 is vital to your completion of the program. During the group interview session, you will be completing the post-study survey and sharing your experiences using the program with WestEd researchers. If you have completed all study requirements, you will be provided with a check at that time.

Enclosed is your signed copy of the Memorandum of Understanding (MOU). If you have any questions, please contact Jaclyn Ziobrowski, the project coordinator, at jziobro@wested.org or (toll-free) 1-877-938-3400, ext.5420.

Sincerely,

Jordan E. Horowitz
Senior Project Director
Reminder about Study Requirements

- Stream PBS Ready To Learn video clips on the provided cell phone at a **minimum of 3 times per week** and share these clips with your child.
- It is not necessary to wait to receive the text message for you to stream the letters. The text message only serves as a reminder to you.
- Stream **3 different letters on 3 different days**. You can repeat letters as long as you are also streaming new letters.
- Stream the **new letters from the new week**. Again, you can repeat letters from previous weeks as long as you are also streaming the new week’s letters.

Let us know if you have any questions about streaming the video clips or any of the study requirements.

WestEd (877) 938-3400 ex. 5485
Greetings,

Due to the unfortunate circumstances concerning your cell phone, we are unable to retain you as a participant in the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo.

Enclosed is an additional signed copy of the Memorandum of Understanding (MOU). This contract is no longer valid.

To thank you for your participation, we have enclosed a remuneration check for $50. We hope this will help in the purchase of a new cell phone.

If you have any questions, please contact Jaclyn Ziobrowski, the project coordinator, at jziobro@wested.org or (toll-free) 1-877-938-3400, ext.5420.

Sincerely,

Jordan E. Horowitz
Senior Project Director
APPENDIX E
POST MEETING MATERIALS

Participant Letter (Southern California Example)

Participant Group Interview Protocol

Participant Post-Intervention Survey
Greetings Parent,

During the week of July 10th, parents participating in the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo need to attend one group interview session. If you have not already scheduled a group interview session with a WestEd representative, please call the number below and do so as soon as possible.

At the group interview session, you will complete the post-intervention survey and will share your thoughts with WestEd researchers about your experiences with the program. The session will take about 90 minutes.

At the group interview session, you also will be issued a check for $53 for your participation in the study and to cover the cost of text messages you may have incurred. If you have incurred any other costs from Sprint related to the study, please either fax (562-799-5151) or mail a copy of your Sprint bill(s) to our office (Attention: Jodie Hoffman). If you are unable to fax or mail a copy of the bill(s), please bring them with you to the group interview session.

**Please bring to the group interview your letter checklist from the brochure you received at the training session.**

To schedule a group interview session (if you have not already done so) contact Armando Tafoya toll free at (877) 938-3400, ex. 5431.

Maps, directions, and parking information for your local group interview location are enclosed.

Thank you again for being a part of this important study.

Sincerely,

Jordan E. Horowitz
Senior Project Director, Evaluation Research
CPS - Group Interview Protocol

Read to respondents: Welcome to the group interview session. We want to thank you for your participation in the PBS Ready To Learn Cell Phone Study: Learning Letters with Elmo and for coming here today to share your experiences. WestEd has been contracted as the external evaluator for the study. We appreciate honest responses in order to provide useful information to PBS Ready To Learn, Sesame Workshop, and the US Department of Education. All responses will be kept anonymous. Is it ok with everyone if I tape record this session today?

1. Literacy Tips
   • What is your opinion of the Maria video clips?
   • How could they be improved?
   • Did you use any of this information with your child? Provide examples.

2. Children’s reaction/learning
   • Did your child enjoy watching the alphabet video clips?
   • Did your child experience any problems watching the clips (ex. the screen is too small)?
   • Do you think the Elmo video clips had any effect on your child’s letter knowledge? How so? Describe, provide examples. (ex. looked for letters in the community, equated letters as parts of words)

3. Viewing
   • Please describe the circumstances around your child viewing the alphabet video clips, including the best time to view and your child’s viewing patterns. ex. Time of day, number of times per day, letters watched (old or new).
   • Probe: Did your child only want to watch one letter segment or was s/he equally interested in all letters?
   • Probe: Did your child begin to request to view the segments after a few uses?
   • Probe: Did your child want to view segments multiple times?

4. Program thoughts
   • What do you think about having a Letter of the Day versus just having access to a complete Letter Library?
   • What do you think of this method of communication (text messages and video streaming) as a tool to get information to parents and children?

5. Conclusion
   • Is there anything else you would like to add about the study that we have not covered?
**Remember to get examples:** “What makes you say that?” or “Can you give an example of that?”

**Try to determine if one response is an outlier or the status quo:** “Did others experience the same thing or something radically different?” or “In another group, XYZ happened often. Did you experience this?”
PBS Ready To Learn Cell Phone Study:
Learning Letters with Elmo
Parent Post-Intervention Survey

ID#: ________________________________

Please complete this survey as it relates to your 3- or 4-year-old child who watched the PBS alphabet video clips on the provided cell phone. Please answer all the questions the best you can. We want your honest opinions and thoughts. You may skip any items you would rather not answer. Thank you!

Child’s Date of Birth: _____________________ month day year

1. What is your relationship to the child? (check one)
   - Mother
   - Father
   - Other: ________________________________

2. About how many children’s books and magazines does your child have in your home now? (including library books)
   Number of books: ________
   Number of magazines: ________

3. Indicate your child’s reading level by checking the appropriate box:
   - My child “pretends” to read (makes up a story out loud from the pictures in the book).
   - My child remembers some words of familiar books.
   - My child reads familiar books on his/her own.
   - My child is able to read most books for his/her age.
   - My child reads books more advanced than his/her age group.
   - None of the above
4. How often do you read aloud to your child?
   - Never
   - 1-3 times per month
   - 1 time per week
   - 2-4 times per week
   - 5 times per week/daily

5. When you are reading a book to your child, how often do you:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read all of the text in the book</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point to the pictures and label them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point to the words in the book</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to label the pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(“what’s this”) or point to certain pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(“where is the tree”)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to point to letters or words in the book</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to predict what will happen next or explain why something happened</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. When you are reading a book to your child, how often does your child:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point to the pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn the pages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point to letters or words</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make comments about the story or pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. About how many hours a day does your child usually watch:
   a) Broadcast television:
      - Never
      - Less than 2 hours
      - 2 – 3 hours
      - 4 – 5 hours
      - 6 hours or more
   b) DVDs and videos:
      - Never
      - Less than 2 hours
      - 2 – 3 hours
      - 4 – 5 hours
      - 6 hours or more
8. How often does your child watch the following PBS television programs at home?

<table>
<thead>
<tr>
<th>Program</th>
<th>Never</th>
<th>1-3 times per month</th>
<th>1 time per week</th>
<th>2-4 times per week</th>
<th>5 times per week/daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthur</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Barney</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Between the Lions</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Clifford, the Big Red Dog</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Dragon Tales</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Maya &amp; Miguel</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Postcards from Buster</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Reading Rainbow</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>Sesame Street</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
</tbody>
</table>

9. Do you have an Internet connection or have access to it? (check all that apply)
   - ✧ No access to the Internet (please skip to question 12)
   - ✧ Yes, I have access to the Internet at home
   - ✧ Yes, I have access to the Internet at work
   - ✧ Yes, I have access to the Internet elsewhere

10. How often do you or your child do the following Internet-related activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>1-3 times per month</th>
<th>1 time per week</th>
<th>2-4 times per week</th>
<th>5 times per week/daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>I go to the PBSKIDS.ORG website</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
<tr>
<td>My child goes to the PBSKIDS.ORG website</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
<td>✧</td>
</tr>
</tbody>
</table>

11. If your child goes to the PBSKIDS.ORG website, what does s/he do while on that website? (check all that apply)
   - ✧ Look at a show-specific page
   - ✧ Play games
   - ✧ Read stories
   - ✧ Listen to music
   - ✧ Print pictures to color

12. How many letters in the alphabet does your child know?
   - ✧ None
   - ✧ Some
   - ✧ Most
   - ✧ All
13. Does your child know any of the letters in his/her name? (check all that apply)

- My child can spell his/her name verbally
- My child can recognize his/her name when written or in print
- My child can write his/her name

14. Does your child point out letters from the alphabet when s/he sees them? (for example, in your home or when riding in the car)

- Yes
- No

15. Aside from this study, is your child currently being taught the letters in the alphabet?

- Yes
- No (skip to question 17)
- Don’t know (skip to question 17)

16. If you answered Yes to question 15, where is your child learning the letters in the alphabet? (check all that apply)

- At home from parent(s)
- In preschool/childcare center
- Private tutor
- From older sibling(s)
- From a book
- From a TV/DVD program, name: __________________________
- From a computer program (ex. Leapfrog), name: ________________________
- Other: __________________________

17. What is the most accurate description of your child’s knowledge of the ABC alphabet song?

- Child can sing all of the letters in the proper order
- Child can sing some of the letters in the proper order
- Child can sing the song but does not yet sing any letters in the proper order
- Child does not know this song
- Other: __________________________
18. How often do you do these activities with your child?:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art or other projects that include writing your child’s name or writing letters of the alphabet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to look for letters on signs or on printed material around the house (for example, on street signs, food labels, cereal boxes and so on)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talk to your child about the sounds in familiar words</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask your child to find objects around the house that start with certain letters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sing the alphabet song with your child</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. Does your child ever use your cell phone now to: *(check all that apply)*

- [ ] Does not use phone at all
- [ ] Talk to another person
- [ ] Pretend to talk to another person
- [ ] Play games
- [ ] Play with the phone
- [ ] Other: ___________________________

20. What concerns do you have about your child using your cell phone: *(check all that apply)*

- [ ] No concerns
- [ ] Breaking the phone
- [ ] Using up minutes
- [ ] Calling people accidentally
- [ ] Other: ___________________________

21. How did you first hear about the study?

- [ ] At our child care center
- [ ] Community discussion board
- [ ] Through my MOMS group
- [ ] Someone told me
- [ ] Other: ___________________________
22. What motivated you to participate in the study? *(check all that apply)*

- ❑ Free cell phone
- ❑ Money incentive
- ❑ Literacy study
- ❑ I thought my child would benefit
- ❑ Internet access on my phone (PowerVision)
- ❑ Association with Sesame Street
- ❑ Association with PBS *Ready To Learn*
- ❑ Other: ______________________________

23. Did your child want to watch the alphabet video clips more often than you were able to let him/her watch?

- ❑ Yes
- ❑ No

24. About how often did your child ask to view an alphabet video clip on your cell phone?

- ❑ Never
- ❑ Once per week
- ❑ 2-4 times per week
- ❑ 5-6 times per week
- ❑ Once every day
- ❑ Multiple times every day

25. How did you schedule viewing time with your child? *(check all that apply)*

- ❑ I did not have a regularly scheduled viewing time
- ❑ Every morning
- ❑ Every afternoon
- ❑ Every evening
- ❑ Just before/after a meal
- ❑ Just before/after nap time
- ❑ Just before/after daycare
- ❑ As a reward for good behavior
- ❑ Other: ______________________________

26. Where did your child most often view the clips?

- ❑ At home
- ❑ In the car en route to a destination
- ❑ While waiting for something (eg., in line, before a class, etc.)
- ❑ Other: ______________________________
27. To what extent were the text messages a helpful reminder for you to view the alphabet video clips*?

- [ ] Not at all
- [ ] To a small extent
- [ ] To a good extent
- [ ] To a great extent

*Do you have any suggestions for improving the text message reminder system?:

28. To what extent was the letter library useful?

- [ ] Did not use
- [ ] Not at all
- [ ] To a small extent
- [ ] To a good extent
- [ ] To a great extent

29. How often did you use the letter library?

- [ ] Never
- [ ] 1-3 times per month
- [ ] 1 time per week
- [ ] 2-4 times per week
- [ ] 5 times per week/daily

30. How often did you view the alphabet video clips with your child?

- [ ] Never
- [ ] Some of the time
- [ ] Most of the time
- [ ] All the time

31. On average, how much of the alphabet video clip did your child view each time it was played?

- [ ] Entire clip
- [ ] About half
- [ ] Just the Elmo introduction
- [ ] Other: ______________________________

32. Please rank the timing/length of the following features of the Learning Letters with Elmo program:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Too Long</th>
<th>Just Right</th>
<th>Not Long Enough</th>
<th>Did Not View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria literacy tips</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elmo introduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alphabet video clip</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


33. How did you initiate viewing the alphabet video clips? *(check all that apply)*
- [ ] I started the clip for my child each time
- [ ] I started the clip for my child the first time and s/he re-started it to repeat the clip
- [ ] My child started the clip each time
- [ ] Other: ______________________________

34. When watching the alphabet video clip, how often did you or your child experience the following disturbances?

<table>
<thead>
<tr>
<th>Disturbance</th>
<th>Never</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost every time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of cell phone signal*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone malfunction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server was busy or inaccessible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not enough time to complete a clip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child dropped phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child interrupted video by pushing buttons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child interrupted video in another way*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please explain:
____________________________________________________________________
____________________________________________________________________
__________________________________________________________________

35. After viewing the alphabet video clips, did your child ever do any of the following in relation to the letter viewed that day? *(check all that apply)*
- [ ] Identify the letter of the day (in a book, on a street sign, etc.)
- [ ] Recite words that begin with the letter of the day
- [ ] Write the letter of the day

36. To what extent did your child enjoy watching the alphabet video clips?
- [ ] Not at all
- [ ] To a small extent
- [ ] To a good extent
- [ ] To a great extent

37. Which alphabet video clips did your child enjoy most? *(note the alphabet letter of the video clip)*
- Most enjoyable video clip: ______
- Next most enjoyable video clip: ______
- Third most enjoyable video clip: ______
38. Which alphabet video clips did you enjoy most? (note the alphabet letter of the video clip)
   Most enjoyable video clip: ______
   Next most enjoyable video clip: ______
   Third most enjoyable video clip: ______
   ❑ I did not watch the alphabet video clips

39. Which Maria literacy tips did you find most helpful?
   Most helpful: _____________________________________________
   Next most helpful: _____________________________________________
   Third most helpful: _____________________________________________

40. In general, were the alphabet video clips easy to view on the cell phone screen?
   ❑ Yes ❑ No* ❑ N/A, didn’t view
   *Please list any alphabet video clips that stand out in your mind as difficult to view on the cell phone screen:
   ___________________________________________________________________
   ___________________________________________________________________

41. To what extent do you believe the alphabet video clips affected your child’s letter knowledge?
   ❑ Not at all ❑ To a small extent ❑ To a good extent ❑ To a great extent

42. To what extent were you comfortable with your child holding your cell phone?
   ❑ Not at all ❑ To a small extent ❑ To a good extent ❑ To a great extent

43. Compared to before the study began, how comfortable is your child with using the cell phone?
   ❑ Much more comfortable now ❑ Somewhat more comfortable now ❑ No difference ❑ Somewhat less comfortable now ❑ Much less comfortable now
44. To what extent do you think using a cell phone in this way can be an effective learning tool?
   - Not at all
   - To a small extent
   - To a good extent
   - To a great extent

45. Would you pay for a service like this that offered your child clips about letters and provided you with literacy tips?
   - Yes*
   - No

   *If Yes, what is the most you would pay per month?
   - $3
   - $5
   - $10
   - $15
   - $20

46. Please provide any additional suggestions of how you would improve the PBS Ready To Learn: Learning Letters with Elmo cell phone program: