Literacy Fun For Families

Research Report

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Research has shown a strong connection between involvement in family literacy programs and improvement in home literacy practices, including viewing of educational television programs. In a recent study, an OISE research team designed a literacy-based curriculum, in collaboration with TVO, that targets both parent and child audiences. The project consisted of a six-week program, ongoing data collection and summative research on the effectiveness of the program, entitled *Literacy Fun for Families*. Graduate students delivering the program were trained in the family literacy curriculum as well as in the use of TVO's educational resources and programs. The central purpose of the study was to investigate whether a research-based family literacy program, when paired with educational television and website programming as explicit components of the program, would change home literacy practices and would enhance children's development of literacy skills in the early years. Pre/post and delayed-post testing was carried out to measure the impact on children's gain scores in literacy compared to a control group who did not receive the program. Ongoing parent feedback forms were gathered to assess what parents were learning and what aspects of the program they found to be most useful. The study has implications for research on the efficacy of family literacy programs and the inclusion of educational programming in terms of literacy-based content analysis and promotion of families' co-viewing practices.

BACKGROUND: HOW CHILDREN LEARN THROUGH MEDIA

Without doubt, children are bombarded with messages from a multitude of media sources: television, commercialized classrooms, the Internet, computer programs, video games, and so on. In an age in which technology is advancing at an ever-increasing speed, it is important to understand the educational value of technological media to which children are exposed on a daily basis. Specifically, the value of educational television and accompanying website interaction can have lasting social and academic outcomes. In order to capitalize on its educational value, there is a need to highlight what makes educational television and websites effective. More importantly, the components that make it effective should be better understood by parents whose children are exposed to numerous hours of television in the early years. The *Literacy Fun for Families* program proved to be an effective means of providing research-based literacy education to parents and their young children.

The research presented here is based on the success of a previous family literacy study and builds on children's interest in educational television programming and websites. That the *Literacy Fun for Families Program* includes educational components for both parents and children highlights the importance of parental involvement in children's television viewing and other media. Recent research suggests that the benefits of educational television are enhanced when parents watch programs together with their children and draw attention "[…] to the most important aspects of the program and by extending lessons presented in the program" (Kirkorian, Wartella, & Anderson, 2008, p. 52).

Whether through exposure at home or school, children are immersed in a world of technology; it has become "[…] an integral part of their social life" (Zevenbergen, 2007, p. 19). In order for children to reap the benefits of educational television and website programs, it is important for parents and other caregivers need to keep current with the technology their children are exposed to on a daily basis. More importantly, caregivers benefit most from learning about how to support their children's overall literacy development at home. According to Linebarger & Piotrowski (2009), the marriage of television and literacy is a "synergistic relationship" and can increase children's opportunities for "literacy-enriching interactions" (p. 49). Crucial to children's success in learning to read and write,

is parents' ability to make connections between effective educational and website programs and hands-on home literacy practices.

The early years are especially important for establishing home literacy practices as a basis for school learning. The two learning environments—home and school—have the potential to become mutually reinforcing. According to a review of literature on educational television, "[…] children do not begin to discriminate between television and real-life events until the early preschool years" (Kirkorian, 2008, p. 42). Parents and other caregivers need to mediate children's exposure to ensure appropriate viewing patterns. The following section outlines components of effective educational media, particularly as they pertain to television and websites.

COMPONENTS OF EFFECTIVE EDUCATIONAL TELEVISION AND WEBSITES

Recent research suggests that some educational aspects of television, such as storytelling, have been overlooked (Linebarger & Piotrowski, 2009). According to Baydar (2008), television can act as "[…] a powerful vehicle for informal education" (p. 349). Its informal nature and lack of connection to formal learning settings may have contributed to its educational value going unnoticed. However, as shown in the literature, there are some common characteristics of effective educational television:

CONTENT

Program content that includes aspects of literacy and language learning is a fundamental component of effective educational television. In order to be termed 'educational', the content of television programming needs to fulfill certain criteria; "[…] the effects of television viewing depend on program content and genre" (Wright et al, 2001, p. 1361). Specifically, research suggests that programs that reflect an emergent literacy perspective generally "[…] support many occasions for literacy learning" (Moses, 2008, p. 78). However, content and genre selection is not sufficient. There is a need for monitoring the types of literacy content and the messages they convey (Moses, 2008). Through such monitoring, parents and other caregivers can reinforce positive literacy messages and can counter children's negative perceptions of reading and writing if those were evident.

CO-VIEWING

A growing amount of evidence suggests that parents' co-viewing of television programs with their children has an effect on the educational impact of those programs. In the mid-nineties, research predicted that "[…] the benefits of viewing could increase when children watch television with their parents" (Baydar, 2008). Since then, other research has supported this prediction. In fact, recent research has found that adult interaction before, during, and after viewing a program is the predominant reason that children benefit from screen media (Cardany, 2010). Interestingly, children's ability to understand "persuasive intent" and "inherent bias" in programs, and more specifically in advertising, does not fully develop until age seven or eight (Blosser & Roberts, cited in Kirkorian, 2008, p. 43). This emphasizes the importance of parental interaction in children's viewing of television and other media. Co-viewing is not only a component of effective educational television, but it also has the potential to increase the effectiveness of other media (Kirkorian, 2008). Consistent with this finding, the whole family approach embedded in the *Literacy Fun for Families* program acknowledges the crucial role parents play in their children's cognitive, emotional and social development, specifically, how their interactions with their children have a direct impact on the outcomes of viewing educational media.

FREQUENCY AND PATTERN OF VIEWING

A common assumption exists that television viewing can be detrimental to children's development. While this may be the case for entertainment television, on the contrary, recent research has found that television viewing, when done in moderation, does not have detrimental effects for young children (Baydar, 2008; Foster & Watkins, 2010). Indeed, one study showed that cognitive skills were enhanced through educational television viewing (Baydar, 2008). In addition to having an impact on overall child development, viewing high-quality educational programs at a young age can positively influence viewing patterns later on in childhood (Baydar 2008; Wright 2001). In one study discussed by Wright & Huston (1995), it was found that "[…] children who watched a lot of educational television also devoted more time to reading and educational activities away from television than did infrequent viewers" (Wright et al, 2001, p. 1361). In order to have such a positive impact on future viewing patterns, it is recommended that parents watch programs together with their children, monitor and reinforce educational messages embedded in the program content, and regulate the number of viewing hours.

LIMITATIONS OF EDUCATIONAL TELEVISION

Historically, critics have claimed that television displaces other, more important activities such as sports, music, and reading. Television has also displaced other entertainment over the years (e.g., comic books, radio) and does today as well (e.g., computers, hand-held devices) (Kirkorian, 2008). Another common criticism is that television viewing has a negative impact on children's academic achievement. However, when studies take into account factors such as family income, the link between television exposure and academic achievement in children is insignificant (Kirkorian, 2008). More recent studies have found a positive association between moderate television viewing and later academic achievement (Kirkorian, 2008). Perhaps the most common misperception about television viewing is that it leads to attentional problems. A recent reanalysis of the link between the two (Foster & Watkins, 2010), found a connection between very early viewing (between ages 1 and 3 years) and attention problems at age 7. It also found the relationship between viewing and attention disorders complex. Re-analysis uncovered other associated factors, such as maternal academic achievement and poverty status. Overall, their research pointed to the importance of the "quality of viewing." Their re-analysis affirmed that educational programs can have lasting benefits on children's development when content is monitored for high quality and when parents watch programs together with their children.

LITERACY AND EDUCATIONAL MEDIA

Within the domain of educational media, there has been a growing emphasis on "[...] creating content to support the development of early literacy skills" (Linebarger & Piotrowski, 2010, p. 1583). The *Literacy Fun for Families* program was successful in that it involved parents in the media their children were exposed to and taught parents how to integrate media sources such as television and websites into their home literacy practices in effective ways. Those who interact with children on a daily basis would surely agree that children have a seamless way of viewing the world; "[…] children do not separate knowledge gained in one medium from that gained in another (Harste, Burke & Woodward, 1994, cited in Jennings, 2009). Parents need to take interest not only in children's academic work but also in the informal educational sources they are exposed to on a daily basis (e.g. television programs, websites). Parents and other caregivers are discouraged from using screen media as something simply to occupy a child's time. No doubt, the ability to co-view with a child, the sensitivity of knowing when and how to ask questions, and the knowledge of how to reinforce literacy-based content and extend learning, all constitute essential parenting skills. Programs such as *Literacy Fun for Families* empower parents with such skills and help them strengthen their home literacy practices as a result.

This study set out to examine ways in which the *Literacy Fun for Families* program could enhance home literacy practices by sharing knowledge about early literacy development with parents and by providing them with key resources and day-to-day activities. It also set out to examine whether the program would have a positive impact on young children's developing literacy skills in comparison to a similar group of children who had not received the program with their parents.

RESEARCH METHODS

The study was carried out in three elementary schools—two "intervention" schools where the Literacy Fun for Families program was held, and one control school that did not receive the program—in the Region of Peel west of Toronto. From the two program schools, families of kindergarten-aged children were recruited by the research team during the school's kindergarten registration sessions. When families came to register their child for kindergarten, they were invited to attend the LFF program. The Principal Investigator of the study had an ongoing connection with the schools from previous research projects. There were two program sessions: the spring session took place at two schools once a week for six weeks. The summer session took place at one school with two groups (morning and afternoon) twice a week for three weeks. The control group was recruited from a demographically matched school that participated in another study not involving families in a program. Participants in the research schools were representative of the general population of the school board, which has a high proportion of English-language learners; two thirds of the families who participated in the program reported speaking a language other than English at home. A total of 118 children (72 in LFF with their parents) participated in the research. Complete data were available for 40 children in the spring session, 39 children in the summer session, and 32 children in the control group. Child participants were either entering, attending or exiting junior (4-years-old) or senior (5-years-old) kindergarten. Children's age was controlled in the analyses.

The program consisted of six sessions, each following a similar format, modified for this study from a published family literacy program book published by Scholastic Education (Pelletier, Hipfner-Boucher & Doyle, 2010). The modification involved using resources from TVOKids and TVOParents print materials and websites. Each session was specifically geared to take advantage of the TVO resources, thereby replacing some of the materials in the original Pelletier et al handbook. The number of sessions was reduced from nine to six in order to recruit and retain families during the shortened spring and summer timelines. Content in the original resource (Pelletier et al, 2010) was condensed but not eliminated. The explicit goal of the sessions was to support parents in their efforts to help their children learn skills they need as they learn how to read and write. As in the original resource, sessions began with families all together for an introduction and welcome time led by a facilitator. After the opening song, a book was read in plenary and the facilitator introduced the session topic and activities that follow. Other facilitators (n=2-4) then took the children for their own session while the adult group facilitator stayed with the parents and introduced theoretical and practical knowledge related to the session's topic (e.g. Oral Language Development, Environmental Print). The number of child facilitators in the LFF programs was ideal for the large number of children who attended; however the program was originally designed to have two child facilitators for approximately 15-18 children and one parent facilitator. The parent facilitator elicited discussion of parents' ongoing home literacy experiences through group sharing. Parents were asked to provide feedback and to evaluate each session using a combined open-ended and Likert-scale questionnaire. In the child sessions, facilitators geared the songs, discussion and activities to the same topic the parents were discussing in their session. Children learned new words and concepts and engaged in activities related to TVO programs and website to extend their learning. After the children returned from their session, parents and children reviewed completed activities, practiced TVO online games geared to the program topic, and sang a closing song together to end the session. Facilitators guided

families through the TVO websites and pointed out interesting online games that families could continue at home. Parents were given a booklet for each session, provided by TVO, containing background research on the literacy component covered, current articles on the topic, and practical tips for using online games along with a DVD resource each week. They were also given other resources, depending on the topic. See Figure 1 for an example of take-home activities from the *Words, Letters, Sounds* session.

<u>Words, Letters, and Sounds Session</u>

DVD selection

Letterella Word Family: "at". After watching this video clip, try making some new words that use the 'at' ending.

Activities

• Play 2 games on tvokids.com that help your child work with letters and sounds.

1) Alphabet Goop (http://www.tvokids.com/games/alphabetgoop)

2) Loosey Goosey Rhymes (http://www.tvokids.com/games/looseygooseyrhymes)

• Create a silly rhyme with your child.

• Create a goofy tongue twister with your child. (Note that the initial sound of the words in your tongue twister should, for the most part, be the same.)

• Create a "letter journal". Take a medium-sized notebook and write a letter of the alphabet at the top of each page. Go for a walk around your neighbourhood with your "letter journal". As you walk, write down the names of things you and your child see on the page under the letter that they start with. For example, if you see a house, write the word "house" on the "h" page.

FIGURE 1. EXAMPLE OF TAKE-HOME ACTIVITY   6 | P a g e

Parents were asked to fill out overall pre- and post-program surveys in addition to weekly evaluation forms. Anecdotally, parents reported they enjoyed the structure of the program (together/breakout/together). The general structure of the program supported both adult and child learning styles. During the program time and in follow-up activities at home, parents were encouraged to watch the recommended TVO Kids educational programs with their children and to facilitate their children's online activity on the website. These activities were all designed to promote early literacy development. Parents also learned how to negotiate and make us of the TVO Parents activities and website.

LITERACY FUN FOR FAMILIES SESSION

The family literacy program consisted of six sessions covering essential components of family literacy based on a review of the literature and on our previous family literacy program and research (Pelletier et al, 2010). In the following section, a summary of each component provides a general idea of the information and concepts that were shared with parents throughout the program.

ORAL LANGUAGE SESSION

Language develops from birth. As a foundational skill to social development, it is "[…] one of an infant's earliest social responses" (Klein, 234). Its development occurs in stages, the first of which is crying. Through crying, babies acquire a basic understanding of what it means to "talk to" or communication with someone. Babies next use cooing at around two months of age and babbling at about six months. The language of cooing and babbling is universal, regardless of the language spoken around the child. In addition to exercising muscles that are later used to speak real words, babies learn through cooing and babbling how to take turns when talking. After the first year of carefully listening to words spoken around them, babies begin to make word-like sounds. This indicates a baby's attentiveness to listening and practicing words used by adults. By about 18 months, babies begin to use individual words. By three years of age, this develops into simple sentences that become more complex over time (Pelletier, Boyle, & Hipfner-Boucher, 2010).

Children acquire language from the world around them. Adults and older children act as models for young children. Contrary to common knowledge, we don't "teach" children to speak. By listening to adults and older children speak, children learn how and why we talk (FL 64). What facilitates this learning is a "[…] rich and interactive language environment" (Klein, 2001, 235).

READING SESSION

Reading aloud is a special activity that children do with their parents and other adults in their lives. It is important for children to experience reading as a pleasurable activity. The desire to read or be read to is one of the first steps in learning to read. Through the act of reading or being read to, children acquire skills crucial to literacy development. At a basic level, they practice book-handling skills like how to hold a book and turn pages properly. Reading also serves as a natural way for children to expand their vocabulary. It a conceptual level, it helps children develop narrative skills. For example, they begin to identify characters and understand story structure in terms of a beginning, middle, and end. Reading or being read to also builds children's imagination; through reading, children learn about places, people, and things that are not part of their daily lives. Children also begin to grasp the concept that print is language on paper, that the words we speak and the words we read are the same (Pelletier, Boyle, & Hipfner-Boucher, 2010).

WORDS, LETTERS AND SOUNDS SESSION

Children need to have an understanding of the elements of speech before they can begin to read print. First, children need to understand that speech is made up of words that when strung together make sentences to express ideas (FS 99). Because children don't distinguish between individual words at first, they need help in learning and pronouncing words separately. One strategy for this is to read books that have repetitive text. Children also need to learn how to hear sounds in words and match those to letters. Through learning sounds, children understand that reading is about putting sounds and letters together. One of the most common strategies is teaching rhyming words. Children start to be able to pick out rhyming words at around four years of age, although exposure prior to that age is paramount to learning about rhymes. Learning about syllables in words occurs generally occurs at ages four and five. These smaller bits of sound can be taught by clapping out syllables in names and other known words. When slightly older, children can be taught to think about even smaller "bits" of sound, such as the first sound in a word, through rhyming and matching word games (Pelletier, Boyle, & Hipfner-Boucher, 2010)

ENVIRONMENTAL PRINT SESSION

Environmental print consists of the print that surrounds us in our daily lives. It can be found indoors or outdoors on signs, signals, symbols, logos, and so on. Awareness of environmental print helps children to better understand that print carries a message, that it tells us something. Print conveys a message in different ways: through pictures, symbols, letters, and words. Environmental print helps children to develop their understanding that print has different functions or purposes and takes different forms. Parents can help children to become interested in environmental print by showing children that print is all around them, by talking to them about what it means, and by telling them how and why it is used (Pelletier, Boyle, & Hipfner-Boucher, 2010).

WRITING SESSION

Writing develops in stages. Through their own observations and access to writing materials, children begin to understand that writing is a way to say things that we otherwise think to ourselves or say out loud. The types of writing children do changes over time. Children generally begin with scribbling which indicates an effort to try to copy the writing they have observed others do. Over time, scribbles begin to look more like printing or writing. Children learn that by putting certain letters together they can print words. In contrast to speech, learning how to write requires direct instruction. This is why it is that much more crucial that children observe concrete examples of writing on a daily basis in order to grasp the purpose of writing. Children have to be taught *how* to write. For example, children must be taught to name the letters of the alphabet, and must be shown how to form them. Children also need to understand the various forms are writing depend on the purpose for writing (i.e. grocery lists). On a mechanical level, children develop fine motor skills through writing. Children continue to learn about how to write well into their elementary school years (Pelletier, Boyle, & Hipfner-Boucher, 2010).

MATHEMATICS SESSION

Early mathematical development begins with numbers and counting. For example, in the preschool years, children learn the number sequence from 1 to 10. They learn that each word in the number sequence stands for an object (one-to one correspondence) and that counting 1-2-3 things means that there are three objects in a set of objects (quantity). This is known as "cardinality." Parents can reinforce this early mathematical knowledge by thinking about daily activities that could provide an opportunity for teaching their child to count. Parents can do other activities that relate to developing number sense. They can read counting books, sing songs that involve counting, play board games with die. A parent's use of mathematical vocabulary can also reinforce a child's number sense.

For example, using words such as nearer/farther, longer/shorter, and so on. Much like environmental print, pointing out numbers in the environment is another important element of acquiring mathematical skills. Finally, parents can also show their children that numbers, like letters, can be written (Pelletier, Boyle, & Hipfner-Boucher, 2010).

DATA SOURCES USED IN THE RESEARCH

Parent data sources included the Family Information/Home Literacy Environment (HLE) Survey, session-specific feedback form and overall program evaluation survey. The HLE survey asked parents for information about the ages of their children, language spoken at home, television viewing practices, online computer use by children, and a battery of family literacy practice items (books in home, age when children first read to, library visits, parents' recognition of children's book titles/authors etc.). This survey was completed before and after the LFF program (see Figure 2).

SECTION D: ABOUT YOUR CHILD

How often does your child…	Never	Once a week	Few times/week	Daily
D1. … ask to be read to.				
D2. … like to look at books on her/his own.				
D3. … show interest in learning letter names.				
D4. … draw or write.				
D5. … ask about the meanings of words				
D6. … ask about what printed words or signs mean				
D7. … tell you about the things s/he does during the day.				
D8. … make up stories				
D9. … enjoy listening to stories				
D10. … show interest in numbers and counting.				

FIGURE 2. EXAMPLE OF ONE ITEM FROM THE HOME LITERACY ENVIRONMENT

Parents also completed short feedback forms at the end of each LFF session. These data were used to evaluate the usefulness of each session in helping parents to understand that aspect of children's language and literacy development and to promote those skills at home (see Figure 3).

For each item below, please circle the extent to which the statement is true:

Completely false → *Very true*

I learned a great deal about how to develop oral language skills: 1 2 3 4 5

The session topic was very relevant to me: 1 2 3 4 5

Attending this session was a valuable use of my time: 1 2 3 4 5

The resources provided in this session were very useful: 1 2 3 4 5

Please tell us one important thing you learned during this session:

FIGURE 3. EXAMPLE OF ITEMS FROM THE ORAL LANGUAGE SESSION FEEDBACK FORM

Finally, parents completed an overall LFF program evaluation form. The data from this form were used to assess the overall program effectiveness and to determine which sessions, materials and format parents found to be most helpful (see Figure 4).

Literacy Fun for Families: Program Evaluation Form

We kindly ask for your feedback on the *Literacy Fun for Families* program. Your feedback is valuable to us and will help us to improve our program to better benefit families!

Age of child in program:_____   Date:_____

School:_____   Language spoken at home: _____

Do you have internet access at home?: Yes   No   (please circle one)

For each item below, please circle the extent to which the statement is true, 1= completely false & 5= very true

Completely false →   Very true

I read the booklet, including take-home messages, every week: 1   2   3   4   5

I tried at least 1 extension activity each week: 1   2   3   4   5

I found the weekly log to be easy to read/use: 1   2   3   4   5

Each week, I (and/or my child) watched the DVD given: 1   2   3   4   5

I enjoyed the layout of each session   1   2   3   4   5

(parent-child together time and parent alone time)

Which of the take-home materials were most useful to you and your family? (For example, the booklet, the DVD, or the online literacy activities from tvo kids?)

Which session(s) was most useful for you (Oral language; Reading; Words, Letters, Sounds; Environmental print, Writing, or Math)? Why?

Please tell us if there is anything else regarding reading and writing that you would have liked to learn about:

Additional comments (example: number of sessions, length of sessions, time of day, food provided, or other ideas):

FIGURE 4. LITERACY FUN FOR FAMILIES PROGRAM EVALUATION FORM

Child data sources included five measures that were administered to children individually at pre, post and delayed-post (6 months later) testing time points. These included the Peabody Picture Vocabulary Test (PPVT-3), the Test of Early Reading Ability (TERA-3), the Test of Phonological Awareness (TOPA), an Early Writing Task and a Number Knowledge task. The same measures were used to collect information about the early reading and writing abilities of the control group children. The following section provides more detail about each of these measures.

Peabody Picture Vocabulary Test – 3rd Edition (Dunn & Dunn, 1997). The PPVT-3 is a standardized measure of children's English receptive vocabulary. For each test item, children are shown four pictures and asked to point to the picture that corresponds with the word spoken by the experimenter. A basal level of performance is determined and testing continues in sets of 12 increasingly difficult words until the child makes 8 or more errors in a single set. Standardized tables are used to convert raw scores to standard scores.

Test of Early Reading Ability – 3rd Edition (Reid, Hresko & Hammill, 2001) The TERA includes items that measure three components of early English reading: alphabet knowledge, conventions of print, and meaning. The alphabet subtest measures children's knowledge of the alphabet, including letter recognition, names, and sounds, as well as syllables. The conventions of print subtest measures children's understanding of conventions including spelling, punctuation, and capitalization, as well as children's book handling and familiarity with books. The meaning subtest evaluates children's ability to infer meaning from printed letters, words, sentences, and paragraphs. The TERA-3 provides individual raw and standardized scores of children's early reading ability in each of the three areas, in addition to a total raw and standardized score of early reading. Subtests are individually administered. For each subtest, children start with the appropriate test item according to their age and continue through each subtest until they either complete all items in the subtest or until three consecutive items (within a subtest) are answered incorrectly. The authors suggest that the test is an appropriate measure of early reading for children between the ages of 3.5 and 8.5 years.

Test of Phonological Awareness (TOPA) (Torgesen & Bryant, 1994). The Kindergarten version of the TOPA consists of 20 items that involve comparison of the first sounds in words. The first set of 10 items requires children to indicate which of three pictures begins with the same first sound as a target word, and the second set of 10 items asks them to indicate which of four pictures begins with a different first sound than the others. To expedite the data collection, only the first set of 10 items was administered.

Early Print Task (Pelletier & Lasenby, 2007). This experimental task measures children's early writing development along a continuum as children move from using pictures to using letters and words to represent meaning. It was designed to measure the early writing development of pre-school and Kindergarten aged children. The experimenter asks each child individually to write a sentence involving people, objects and number. For example, the experimenter says to the child, "Please write Daddy has three brown hockey sticks." The child is given a selection of different coloured markers and a blank piece of paper. Responses are then coded based on number (how the child represents the number of objects in the sentence) and based on words (how the child represents the rest of the sentence). Scores can range from 0 for no response, 1 for scribble and so on as children move from drawing to writing and finally to a score of 12 for correct spelling.

Number Knowledge Task (Okamoto & Case, 1996). Children are administered a battery of items that measure their developing understanding of number. For example, children are shown two piles of poker chips (red and white) and are asked to state which pile has more. An example of a more complex item is to ask children which number is bigger: 36 or 29? (young children mistakenly think that the "9" makes the number bigger). Task administration is stopped when children reach three consecutive errors.

Beginning with parents, pre- and post-program Family Information Surveys served as an assessment tool to find out what parents hoped to learn from the *Literacy Fun for Families* Program. The open-ended survey items were coded qualitatively for common responses. In the pre-program survey, the highest number of responses related to parents' desire to learn practical literacy-based skills they could use to improve their home literacy practices. In the post-program survey, the most common response was consistent. That is, parents learned what they hoped to from the program.

Parents' beliefs about literacy were also measured through the Family Information Survey rating scale. In general, there was a high interrelation among parent factors. It was found, for example, that parents who enjoyed reading, considered themselves good readers, believed they could help their child become a good reader, considered themselves to be important in affecting their child's reading, and they enjoyed reading, drawing, or writing with their child. Analyses revealed a high correlation between family attendance at sessions and parent education; the higher the education of the parent, the more likely he or she was to attend the sessions.

Parents also reported on home literacy practices at pre- and post-test time periods. The increase in the number of hours per week children spent watching educational television programs was statistically significant ($p<.05$). The same was found for the increase in hours per week spent on the TVO website ($p<.05$). Parents reported more time spent reading books with their children and telling them stories at post-test time. After the program, parents reported that children asked more often about printed words and sign meanings, suggesting that parents had learned to effectively draw children's attention to print in their daily lives.

The next set of results pertains to the children. A series of repeated measures ANOVAs was carried out using raw scores. Pre-, post- and delayed-post scores were used at each of the three time points. The grouping factor was TVO/Control group. Children's age was used as a co-variate in the analyses. In general, immediate post-test results indicated that child participants made greater gains in each area of literacy that was measured in comparison to the control group children. In some cases benefits were maintained even at the delayed post-test.

All children improved in vocabulary knowledge and children in the LFF group made greater gains than the control group ($p<.05$). Children in the control group were on average, older than children in the family literacy group; therefore raw scores were higher for that group. However, when examining "gains" in vocabulary raw scores, the family literacy group made greater gains (see Figure 5).
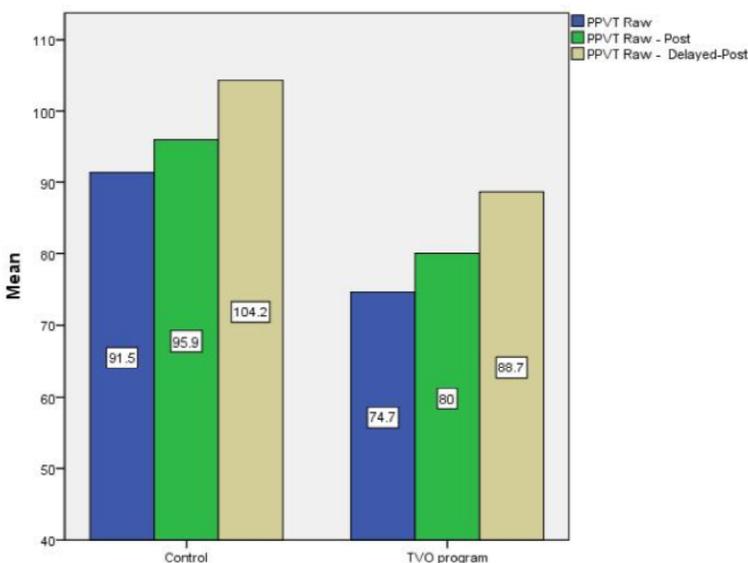
FIGURE 5. GAINS IN VOCABULARY RAW SCORES 13 | P a g e

Children's early reading abilities were measured by the TERA raw scores. The analyses controlled for the ages of the children. It was found that child participants made greater gains in reading after taking part in *Literacy Fun for Families* as compared to the control group. The TERA provides scores in each of three subtest areas: alphabet knowledge, conventions of print, and meaning. In the alphabet knowledge subtest, TVO children made significantly greater gains from pre- to post-test even when age was controlled (p<.05) (see Figure 6).

Change in Alphabet Knowledge

Legend:
- TERA AlphRaw
- TERA AlphRaw – Post
- TERA AlphRaw – Delayed–Post

	Control	TVO program
TERA AlphRaw	19.4	18.0
TERA AlphRaw – Post	20.8	21.3
TERA AlphRaw – Delayed–Post	22.1	21.4
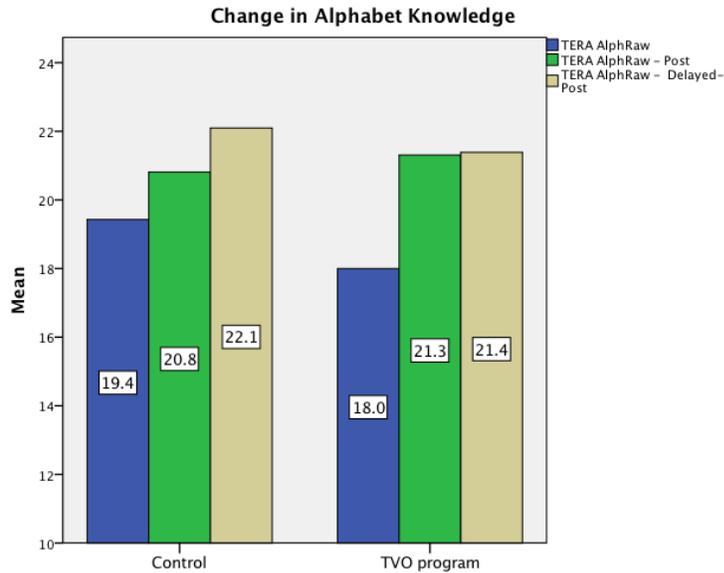
FIGURE 6. ALPHABET KNOWLEDGE SUBTEST

In the conventions of print subtest, TVO children made excellent gains; however when age was controlled, these gains were no longer significantly different from children in the control group (See Figure 7).

Change in Conventions of Print

Legend:
- TERA ConRaw
- TERA ConRaw – Post
- TERA ConRaw – Delayed–Post

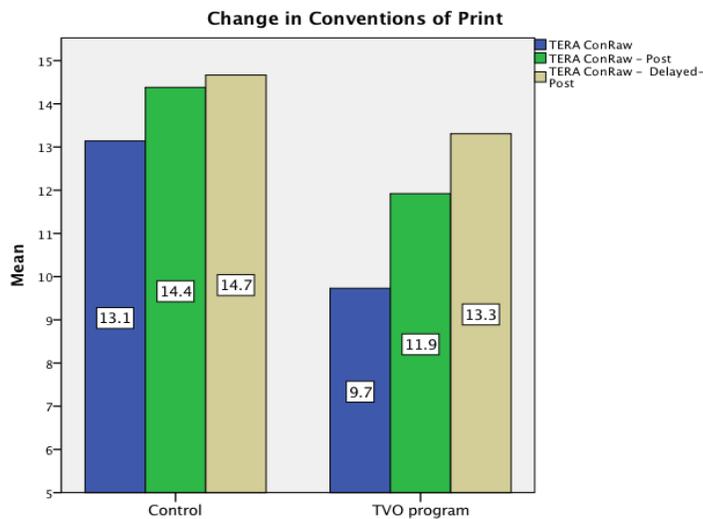|	Control	TVO program
TERA ConRaw	13.1	9.7
TERA ConRaw – Post	14.4	11.9
TERA ConRaw – Delayed–Post	14.7	13.3

FIGURE 7. CONVENTIONS OF PRINT SUBTEST

In the meaning subtest, TVO children made significantly greater gains than did children in the control group even when age was controlled (p<.001) (see Figure 8).
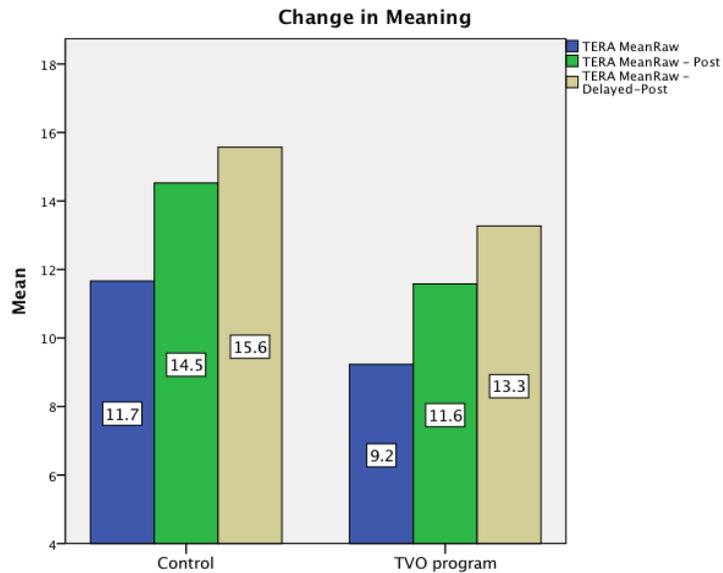
Change in Meaning

FIGURE 8. MEANING SUBTEST

A final analysis of the TERA examined total raw scores for the TVO LFF and control groups. Results showed that when age was controlled, the differences did not reach significance; however as is evident from the bar graphs, the TVO group (who started lower because they were younger) did make notable gains overall (see Figure 9).

Test of Early Reading Ability-Raw Scores
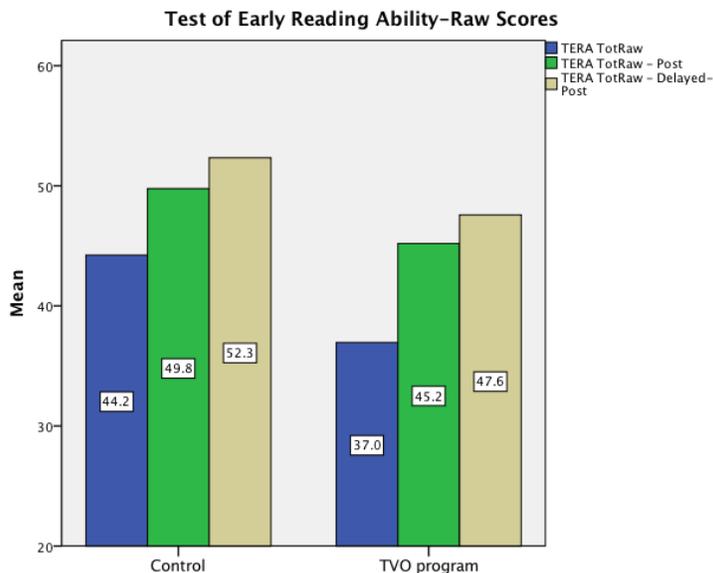
FIGURE 9. OVERALL RAW TERA SCORES   15 | P a g e

The results of the early reading analyses suggest that both the Alphabet Knowledge and Meaning areas of early literacy were most positively affected by the LFF program. A further analysis compared standard scores on the TERA and results were consistent.

For the Early Writing Task, children were asked to write the phrase, "Teacher has five little red crayons". Child responses ranged from scribble to representational drawing to actual letters and words (see Figure 10 for examples of children's writing).

In comparison to the control group, TVO LFF children made significantly greater gains in their writing abilities between pre-, post-, and delayed-post testing (p<.005) (see Figure 11).
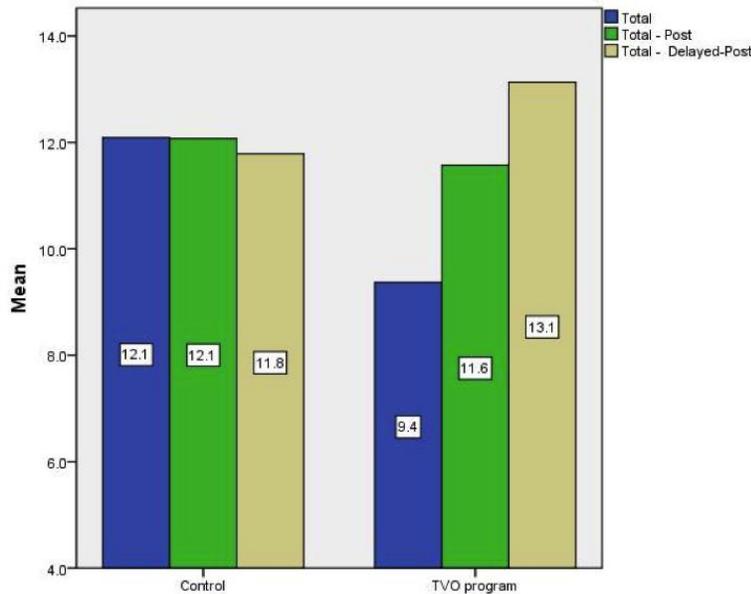

FIGURE 11. CHILDREN'S EARLY WRITING

The final analysis compared performance on the Test of Phonological Awareness. When measuring time progression by group, both program groups made gains in phonological awareness, but those children who participated in the TVO LFF made greater gains (p<.005) (see Figure 12).
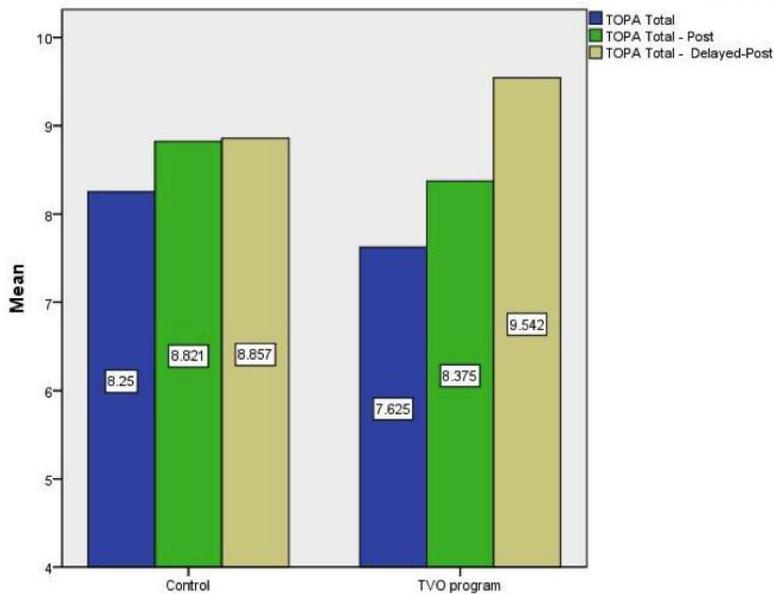
FIGURE 12. TEST OF PHONOLOGICAL AWARENESS (TOPA)

In terms of the overall outcome of the family literacy program, parents who took part in the *Literacy Fun for Families* learned about children's early literacy development and changed their home literacy practices to encourage more literacy involvement with their children. Children, in turn, watched more educational television TVO programs and played more online games on tvokids.com geared towards literacy. They also paid more attention to print and asked more questions about it. Child participants also made greater gains in reading, writing, and phonological awareness compared to the control group. Although this was not a randomized controlled experiment, results of the analyses with a non-randomized control group clearly point to the demonstrated benefit of the TVO LFF program.

SIGNIFICANCE OF STUDY

This study contributes to the link made between educational television and website programming and family literacy intervention programs. The significance of working with families to improve home literacy skills is evident in parents' understanding of best literacy practices and current research related to their children's language development after having participated in *Literacy Fun for Families.* In other words, they left the program equipped with the knowledge and skills necessary to improve their home literacy practices. When coupled with educational television and website programming, family literacy interventions are an effective means of bridging the gap between children's familiarity of traditional reading and writing literacy practices and their ever-increasing exposure to educational media. This link enhances children's ability to use new and available communication systems as a path to literacy (Jennings, 2009). Indeed, to know about educational television and website programs and to have access to such programs may not be sufficient. Parents and other caregivers need support to remain current with technological advances and the content of what their children are viewing. Further, this particular population of families, many of whom are recent immigrants to North America, benefits from ongoing learning of how to recognize, encourage, and support their children's language and literacy development. Family literacy programs, in conjunction with training in how to utilize educational television and computer programs, have proven to be an effective means of enhancing young children's literacy gains.

References

Baydar, N. (2008). Effects of an Educational Television Program on Preschoolers:

Variability in Benefits. *Journal of Applied Developmental Psychology, 29*(5), 349-360.

Cardany, A. (2010). Screen media and young children: Who benefits? *General Music*

Today. 24(1), 50-55.

Case & Okamoto. (1996). The role of central conceptual structures in the development

of children's thought. *Monographs of the Society for Research in Child Development, 61*(1-2), 1-295.

Dunn, L. M. & Dunn, D. M. (1997). *Peabody Picture Vocabulary Test – 3rd Edition*. Minneapolis, MN: NCS Pearson,

Inc.

Foster, M., & Watkins, S. (2010). The value of reanalysis: TV viewing and attention

problems. *Child Development, 81*(1), 368-375.

Jennings, N A. (2009). Educational television as mediated literacy environments for

preschoolers. *Learning, Media and Technology, 34*(3), 229-242.

Kirkorian, H., Wartella, E., & Anderson, D. (2008). Media and young children's

learning. *The Future of Children, 18*(1). 39-61.

Lineberger & Piotrowski (2009). TV as storyteller: How exposure to television narratives

impacts at-risk preschoolers' story knowledge and narrative skills. *British Journal of Developmental*

Psychology, 27, 47-69.

Moses, A. (2009). What Television Can (and Can't) Do to Promote Early Literacy

Development. Young Children. 64(2). 80-89.

Okamoto, Y., & Case, R. (1996). Exploring the microstructure of children's conceptual structures in the domain of

number. *Monographs of the Society for Research in Child Development,*   *61*(1-2), 27-58.

Pelletier, J., & Lasenby, J. (2007). Early writing development in L1 English speaking children. *L1 Educational Studies*

in Language and Literature, 7(3), 81-107.

Pelletier, J., Hipfner-Boucher, K., & Doyle, A. (2010). *Family Literacy in Action: A Guide for Literacy Program Facilitators.* Toronto, ON: Scholastic Education.

Reid, D. K., Hresko, W. P., & Hammill, D. D. (2001). The *Test of Early Reading Ability – Third Edition.* Austin, TX: PRO-ED.

Torgesen, J., & Bryant, B. (1994). *Test of Phonological Awareness (TOPA).* Austin, TX: PRO-ED.

Wright, J. C., Huston, A. C., Murphy, K. C., St Peters, M., Pinon, M., Scantlin, R., & Kotler, J. (2001). The relations of early television viewing to school readiness and vocabulary of children from low-income families: The early window project. *Child Development, 72*, 1347-1366.

Zevenbergen, R. (2007). Digital natives come to preschool: Implications for early childhood practice. *Contemporary Issues in Early Childhood, 8*(1), 19-29.