

**Non-Educational Screen Time and its
Effect on Literacy Achievement in
Young Children**

Research Proposal - CEP 822

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Teaching and Research Proposal Project:

How much non-educational content are children being exposed to in screen time (television programming, video games and computers) and what are the effects of that exposure on literacy, reading and writing, development?

Focus & Rationale

Audience:

1. The main audience for the work developed through this project will be parents/guardians. I might share this work at a school open house, curriculum night, or school readiness event. I want this work to inform parents on the effects too much non-educational screen time may have on literacy.
2. Another audience for this work is teaching colleagues. Presenting during a professional development opportunity or staff meeting will give me the opportunity to educate professionals so they may in turn educate parents of their students.

Sources:

For my literature review I will be pulling sources from the educational website Reading Rockets (www.readingrockets.com). Reading Rockets is funded by a grant from the U.S. Department of Education, Office of Special Education Programs. Reading Rockets is a national multimedia project that offers research-based and best-practice information on teaching kids to read and helping those who struggle. I will also be searching the MSU database for related articles.

Educational Issue:

How much non-educational content are children being exposed to in television programming, video games and computers, and what are the effects of that exposure on literacy, reading and writing, development?

As a first grade teacher this issue hits close to home. When I have students who struggle with reading and in turn also struggle to find a writing topic not centered around movies, TV, or video games, I become concerned that the students are getting too much non-educational screen time. Could too much non-educational screen time be the cause or a benefactor of their literacy, reading and writing, struggles?

This issue is important to me because I am confronted with it daily. I care about my students. I care about their education and personal development. If excessive non-educational screen time is effecting their literacy development negatively parents need to be aware of it and I need the data to back it up.

Literature Review

Through my research I am trying to learn the effects non-educational screen time has on literacy achievement in young students. The research will focus on students in grades first through third grade, as this is the third grade guarantee of the No Child Left Behind Act of 2001 (No Child Left Behind [NCLB], 2002). I am wanting to specifically look at student achievement of reading skills as defined by the Michigan Literacy Progress Profile (MLPP) assessments, Developmental Reading Assessment (DRA), and unaided writing compositions scored on a standardized developmentally appropriate rubric. I am looking for a causal relationship non-educational screen time may have on these areas of literacy development.

Perspectives:

Why are students turning digital?

One possible answer to this question comes from David Walsh with the Education Digest. When students are faced with choosing between frustrations of reading or the immediate satisfaction of TV or video games the choice often favors TV and video games. It is easier to flip a switch and takes less mental strain and effort than reading (Walsh, 2002).

Lisa Guernsey attributes a portion of it to screens being everywhere these days. Televisions are found in numerous places around the house, airports, doctors offices, etc. She also attributes it to modeling. Children are seeing adults constantly using screens and they emulate that behavior (Linebarger, Guernsey, & Lewis, 2009). With the computer, the TV, the DS, and Wii, etc. numerous screens are contending for children's attention (Knorr, 2009).

Research and public opinion perspective on the issues of screen time versus achievement seems to be divided into three categories.

1. Excessive non-educational screen time does not have a negative effect on achievement.
2. Excessive non-educational screen time has a negative effect on achievement.
3. Not enough is known about the effects of screen time in regards to achievement, and much more research is needed.

In regards to the first perspective, *excessive non-educational screen time does not have a negative effect on achievement*, some researchers argue that the effect of educational and non educational screen time aide in cognitive development. In regards to home computer use, some research shows gaming "enhances children's ability to read and visualize images in three-dimensional space and track multiple images simultaneously" (Subrahmanyam, Kraut, Greenfield, & Gross, Fall/Winter, 2000). In another study, watching television from the young ages 0-2 years had neither a positive or negative effect on children's cognitive and language achievement when they turned 3 years old (Schmidt, Rich, Rifas-Shiman, Oken, & Taveras, 2009).

The second perspective, *excessive non-educational screen time has a negative effect on achievement* finds content of screen time, educational screen time versus non-educational screen time for entertainment purposes, is the key to negative associations with achievement. Negative impact on achievement was found when screen viewing was non-educational, yet positive reading achievement was recorded when viewing educational TV (Schmidt & Vandewater, 2008).

The third perspective presented, *in which not enough is known about the effects of screen time in regards to achievement, and much more research is needed*, shows how little we really know about this topic. Much of the research completed to date on this topic revolves around the *amount* of screen time appropriate for young children and studies show parents think that media does have either short- or long-term effects on children (Funk, Brouwer, Curtiss, & McBroom, 2009). However, there has been less conclusive research completed on effects of screen time on achievement and development. "At this point, there are more 'unknowns' than 'knowns' in terms of the impact of exposure to screen and electronic media on very young children's development" (Vandewater, Rideout, Wartella, Huang, Lee, & Shim, 2007). Another study's research proposes that amount of television viewing is unassociated with cognitive development by age 3, but they feel much more research on this topic is needed (Schmidt, Rich, Rifas-Shiman, Oken, & Taveras, 2009).

The lack of conclusive research may be because the long term effects are difficult to weed out in the midst of all other variables. Another reason may deal with the fact that technology and screen time are rapidly changing and evolving making it difficult for research to keep up. Screen time has various meanings to different people. Some say all time in front of a screen counts while others divide screen time into educational versus non-educational. One thing most researchers seem to agree on is that more research is needed on the effects screen time is having on students (Rideout, Vandewater, & Wartella, 2003).

Pedagogy:

In examining literacy achievement without using technological media, I find that reading is an individually supported activity. Students who work hard at mastering the skills through lessons and practice get the reward of reading. They begin to enjoy their time reading as their hard work pays off and they begin to read more. The regrettable part is that it also works in reverse for struggling readers (Walsh, 2002). Reading skills are acquired in a somewhat predictable manner by children who have:

"normal or above-average language skills; have had experiences in early childhood that fostered motivation and provided exposure to literacy in use; get information about the nature of print through opportunities to learn letters and to recognize the internal structure of spoken words, as well as explanations about the contrasting nature of spoken and written language; and attend schools that provide effective reading instruction and opportunities to practice reading (Snow, Burns, & Griffin, 1998)."

Disturbance of any of these developmental processes raises the likelihood that reading achievement will be slowed down. (Snow, Burns, & Griffin, 1998) Giving children a few years to partake in direct personal language experiences and allowing their "abstract thinking capacities" to begin maturing, it then makes sense to slowly introduce computers and other representative settings. (Monke, 2005)

In using screen time for the purposes of teaching literacy development, it is found that the *content* rather than the amount delivered most considerably sways the end result. Children do learn from technology, but it is not always a guarantee. (Hillman & Marshall, 2009) According to researchers, high amounts of television is shown to negatively influence achievement in children from advantaged homes but positively influence achievement in children from disadvantaged homes

(Schmidt & Vandewater, 2008). Screen time such as videos, shows, and games are successful in teaching underprivileged preschoolers many of the literacy skills they need for school readiness. however it needs to be coupled with interaction.

It isn't simply the viewing that makes a difference. It is engaged viewing; asking questions and building oral language (Zehr, 2009). We understand that computer programs can help young children learn how to read, but we also know that face-to-face relationships are one of the most significant elements in reading readiness (Dodici, Draper, & Peterson, 2003). When technology is used in ways along with face-to-face interactions it can be a powerful tool, and it can "help to close the gap between low-income students for school readiness, compared with more advantaged students of this age group" (Zehr, 2009).

Adults are the first and foremost model for their children. If an adult is abusing screen time, most likely the child will too and vice versa. We need to model appropriate behavior with screen time just like everything else. As for young children, they will learn what is set before them. Put violent material in front of them and that is what they will learn. Present them with content that is developmentally appropriate, educational, and utilizes appropriate learning strategies then that is what they will take in. (Linebarger, Guernsey, & Lewis, 2009) It is a parent's responsibility to steer children to activities and programs beneficial to their learning and development (Perle, 2011).

Technology use opens new doors for teaching students in the classroom. Instructional Technology Coordinator at Tuckahoe Elementary in Arlington, Virginia , Marnie Lewis states students are receiving more screen time in the home so teachers should be using it to their advantage in the classroom. Take something that at first appears negative and use it to educator's and student's advantage. With guidance these technologies can be a great tool (Linebarger, Guernsey, & Lewis, 2009).

However technology and screen time are used, educational or not, research continually redirects us back to the age old concepts of "nurturing, conversation-rich interactions between children and their care-givers (Guernsey, 2009)." These concepts are something screen time cannot give a child. Ongoing research on the effects of technological media continually to finds that parents have responsibility in choosing appealing and developmentally appropriate content for their children. It doesn't stop there, a parent the is responsible for discussing what was viewed with the child, "helping them connect on-screen images to the world around them" (Guernsey, 2009).

Assessment:

Methods of research and data gathering I have come across in my exploration of this topic range from anonymous questionnaires, telephone surveys and interviews, to case studies in a preschool setting. The following paragraphs outline the methods used in six different studies.

In a study outline in the article titled, Study Says Pre-K Lessons Linked to TV Produce Gains in Literacy, a randomized controlled study was completed. The study participants were low income families with preschoolers. The preschoolers then completed technology integrated curriculum and were tested on literacy gains. The results were compared to children of low income families who did not receive the technology integrated curriculum. The children who participated showed noteworthy gains in acquiring literacy skills. The study notable reports that these same results cannot be had by simply sitting a child in front of a screen with no adult interaction. Adults need to make the connections with the child. (Zehr, 2009)

Nielsen figures showed that television watching for children was at an all time high in 2009 when experts Deb Linebarger, Lisa Guernsey, and Marnie Lewis were interviewed for a webcast that aired on the Reading Rockets website titled, Educational Media: Screen Time and Literacy (Linebarger, Guernsey, & Lewis, 2009).

A study titled, Zero to Six: Electronic Media in the Lives of Infants, Toddlers, and Preschoolers was completed by a randomized telephone digital survey of over 1,000 parents of children ages six months through six years from the spring of 2003. The survey asked random participants about television viewing habits of the children in their home. The survey mainly inquired about the amounts and types of television viewing. It also inquired about parents beliefs on children watching television. The study concluded that television watching is at an all time high and more research needs to be completed geared toward the effects viewing habits have on young children (Rideout, Vandewater, & Wartella, 2003).

A study titled Digital Childhood: Electronic Media and Technology Use Among Infants, Toddlers, and Preschoolers published by the Official Journal of the American Academy of Pediatrics also used randomized telephone contact of participants. Rather than being a digital survey, the data was collected via interview. Households were telephoned in a random digit dial. Interviewees asked to speak to the caregiver who spent the most time with the child. Mothers were the highest respondents. (Vandewater, Rideout, Wartella, Huang, Lee, & Shim, 2007)

In a study published in Official Journal of the American Academy of Pediatrics titled Parents of Preschoolers: Expert Media Recommendations and Ratings Knowledge, Media-Effects Beliefs, and Monitoring Practices , Parents of children up to 5 years of age were surveyed. The 25 question survey was gathered by distributing questionnaires in cubbies of children at day care centers. Questionnaires were to be completed by parents on a volunteer basis at their convenience. The survey was anonymous (Funk, Brouwer, Curtiss, & McBroom, 2009).

The Official Journal of the American Academy of Pediatrics published a study titled, Television Viewing in Infancy and Child Cognition at 3 Years of Age in a US Cohort. The design of the study was a longitudinal survey. Mothers reported amount of television their children viewed in a 24 hour period at ages 6 months, 1 year, and 2 years. The researchers then, at the child's age of 3, analyzed various variables to look for cognitive patterns associated with the amount of television the child viewed (Schmidt, Rich, Rifas-Shiman, Oken, & Taveras, 2009).

Conclusion:

After reading the works of many others that have come before me in the field of screen time and literacy education, it is apparent that much more research is needed in this area. The scope of what I feel needs to be done is vast. My thinking has gone from what are the *immediate* effects of too much screen time, to what are the *long term* effects. I feel a longitudinal study is needed to assess how the amount of non-educational screen time affects literacy achievement.

NCLB (No Child Left Behind (NCLB) Act of 2001, 2002) calls for students reading on grade level by the end of third grade. I would like to follow a group of children from Kindergarten through third grade, documenting their reading progress or lack of progress. I would also like to keep track of the amount of non-educational screen time the children are viewing, looking for a possible causal relationship between the two items. I have learned from the studies of others that life experiences such as low income,

divorced or deceased parents, etc. need to be weighted into the equation as these items already have been found to effect literacy achievement on their own.

I feel this type of research will give us an important look into how technology, a rapidly changing important part of our lives, effects literacy (reading and writing), a part of our lives that has been and is here to stay. Learning to read and write can be frustrating and not nearly as much fun as video games and television for some students, but nevertheless, the need to learn the content is imperative for success within our world of technology.

Research Design

Research Questions:

The research question being considered here is, how much non-educational content are children being exposed to in screen time (television programming, video games and computers) and what are the effects of that exposure on literacy, reading and writing, development?

My plan for generating empirical evidence to answer my research question is a quantitative, non-experimental, ex post facto design. I will be looking for a causal relationship between non-educational screen time and literacy achievement in young children, first grade through third grade.

Procedures:

I have decided to take the approach of a quantitative, non-experimental, ex post facto design because the amount of screen time children are receiving is a variable that cannot be manipulated by the researcher. I will focus on what happens differently to the comparable groups of students participating in the study.

To collect empirical data, I will lay my focus on three different schools. I will choose a school in a high socio-economic area, a low socio-economic area, and a middle class area. The schools will have comparable class sizes. This study is a longitudinal research study. To begin I will focus on the students entering first grade at each school and follow them until the end of third grade.

Each participant will partake in the following:

1. *Preliminary Information Survey* to collect data on:
 - a. Socio-Economic Status
 - b. Home life
 - i. i.e. single mother/father, divorced families, blended families, deceased immediate family members, foster or adopted families, number of siblings, order in sibling age rank.
 - c. Other factors present that have already been found to attribute to low literacy achievement.
 - i. As I discovered in my literature review, it is difficult to determine whether screen time is the cause of low literacy achievement due to numerous other factors present which have already been proven to cause low literacy achievement scores.
2. *Charting Screen Time Averages*
 - a. Parents will also be sent a screen time data collection chart to be filled out similar to the chart below in figure 1.1. The participating parents and students will be expected to track screen time for one week each month and the figures averaged. The chart will be made available online for fill out and turn in purposes for those with internet access.
 - b. I have chosen to have families chart screen time weekly rather than participate in phone or internet surveys in an effort to provide more specific data on how much and what types of screen time students are receiving.

Figure 1.1	Non-Educational Screen Time (minutes)	Educational Screen Time (Minutes)	Comments (Optional)
Computer/Internet			
Video Games			
Television/Movies			
Cell Phone (i.e. texting, using apps)			
Other			

3. *Scoring student literacy achievement*
 - a. Student literacy skills will be tested using the Michigan Literacy Progress Profile (MLPP) assessments, Developmental Reading Assessment II (DRA II), and unaided writing compositions to be graded on a standardized developmentally appropriate rubric at the beginning and the end of each school year.
4. These procedures will repeat for second and third grade.
5. *Michigan Educational Assessment Program (MEAP)* test literacy scores will be gathered for participating students as a Secondary Data Analysis.
6. I will look for a causal relationship between amount of non-educational screen time recorded in the student's charts and literacy achievement scores.

Assessments:

The assessments being used in this study are:

- for Screen Time and Other Home Factors
 - Survey
 - Data Chart
- for Literacy Achievement
 - Michigan Literacy Progress Profile (MLPP)
 - Developmental Reading Assessment II (DRA II)
 - Unaided writing compositions
 - Michigan Educational Assessment Program (MEAP) test literacy data

Survey - I am choosing to have each student's caregiver fill out a survey outlining factors in the home that may have an effect on literacy achievement. In compiling my literature review, I discovered it is often difficult to pinpoint screen time as a cause of delayed literacy development due to the fact that so many other factors have been researched and named as causes. I want to be able to take these other variables into account as I analyze data for my findings.

Data Chart - I have chosen to have caregivers complete a data chart outlining screen time the participating student is receiving. Most research I found for my literature review used randomized digit dialing to look at screen time amounts in particular age groups. I am seeking to find causes screen time

may have on literacy achievement of specific children. To study such a correlation I need to know how much and of what types of screen time the individual children are getting to compare with ongoing literacy scores.

Michigan Literacy Progress Profile (MLPP) - These assessments are used in lower elementary classrooms. They are used to identify students who may be at risk or behind grade level. The MLPP breaks literacy achievement down into specific areas for each student. This series of assessments includes.

- Letter Identification
- Letter-Sound Identification
- Hearing and Recording Sounds
- Phonological Awareness
 - Rhyme
 - Onset Rim and Blending
 - Segmentation
- Concepts of Print
- Known Words
- Sight Word/Decodable Word List

Developmental Reading Assessment II (DRA II) - The DRA II is an oral reading test used to gauge the level a student is reading at. This test assesses accuracy, fluency, and comprehension being achieved at each level of text.

Unaided writing compositions - I have chosen to include unaided writing compositions, scored on a standardized developmentally appropriate rubric. Writing is an important component of literacy. Although connected through literacy, not all good readers are good writers. My research may shed light on certain areas of literacy screen time effects more than others.

Michigan Educational Assessment Program (MEAP) test literacy data - The MEAP test provides data in the form of a standardized test for students as young as third grade. The state uses MEAP data to compare students and schools. I would like to use the literacy portion of this data to compare with what classroom teachers have collected as literacy data to look for more possible relationships between it and screen time.

Design Rationale:

The plan to answer the research question at hand is well-suited to yield good data about the research question. The survey provides much needed information to weigh screen time against other possible variables already research prove to effect literacy achievement. The screen time data chart is a simple method of collecting necessary data without overloading participants. I am choosing to average screen times collected for a designated week each month rather than daily. This will provide me with sufficient data while not overwhelming participants. The literacy achievement tests I have chosen make up a comprehensive list that span all components of literacy to give an accurate picture of what each individual student's literacy achievement looks like.

It is important that each component I have added to my research plan be taken into account. Other research plans may not get an accurate account of at home screen time through phone surveys and caregiver estimations. The screen time data chart is a simple way for caregivers to record accurately how much screen time their child is getting. Other research may not consider already proven

variables, as my survey will, to get to the core of whether screen time has an effect on literacy achievement or not. I believe I have chosen a research design that does take all of this into account. We owe it to our children to truly discover the effects screen time has on their development.

Annotation Summary for Literature Review

1.

Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent-child interactions and early literacy development. *Topics in Early Childhood Special Education, 23*(3), 124–136.

The research presented in this article looks at interactions between parents and their children in low income homes. Children and their parents were observed from videotapes at children's ages 14, 24, and 36 months. The study concluded that "child language, parent language, emotional tone, joint attention, parental guidance, and parental responsivity" have a significant impact on literacy skills.

2.

Funk, J. B., Brouwer, J. M., Curtiss, K. M., & McBroom, E. B. (2009, March 1). Parents of Preschoolers: Expert Media Recommendations and Ratings Knowledge, Media-Effects Beliefs, and Monitoring Practices. *Official Journal of the American Academy of Pediatrics Vol. 123 No. 3*, pp. 981-988.

Screen media targeted at very young children is increasing. This study looks closer at parents of young children and their knowledge about expert recommendations for young children's screen media exposure and their beliefs on young children and how much exposure they should have. The researchers concluded that although professionals need to work to improve universal rating systems, parents need to be continually educated about media and the importance for preschoolers to participate in activities that promote language development.

3.

Guernsey, L. (2009, March 9). *TV Research: Let's Get Smarter About What Young Children See, Hear and Experience*. Retrieved July 19, 2011, from The Early Ed Watch Blog, New America Foundation: <http://newamerica.net/blog/early-ed-watch/2009/tv-research-let-s-get-smarter-about-what-young-children-see-hear-and-experience->

Lisa Guernsey is the director of the Early Education Initiative at New America Foundation. She edits the Early Ed Watch blog which presents original coverage and explanations on policy and research news concerning children's learning from birth to age 8. This post focuses on research involving children and media exposure. She makes the point that research tends to show parental involvement rather than media exposure to be the key to children's development. Parental involvement seems to be the common link.

4.

Hillman, M., & Marshall, J. (2009). Evaluation of Digital Media for Emergent Literacy, Computers in the Schools. *26*:4, 256-270. Retrieved from Education Full Text Database.

Using technology with young children is common. The type of technology used with children strongly affects the child's experience. Technology is increasingly prevalent in our lives and thus in the lives of young children so the authors of this article have developed a way to evaluate "digital content" for young children. Digital content has been divided into six arenas; interactivity, digital literacy, global citizenry, appropriateness, results, and participative nature. This article also discusses research-based questions to ask when choosing technological emergent literacy resources for young children.

5.

Knorr, C. (2009, September 23). *So Many Screens: How to Limit What Kids Watch, Family Media Management*. Retrieved July 19, 2011, from Common Sense Media Inc. 2011: <http://www.commonsensemedia.org/advice-for-parents/so-many-screens-how-limit-what-kids-watch>

Setting limits on screen time is important for the development of children. Merely setting a timer, however doesn't teach how to make healthy screen time choices. This article provides advice on how to help children of different ages make healthy screen choices from the amount of time spent using them, to the types of media they are participating in. By teaching them how to make these choices we can prepare them for learning and a healthy lifelong use of the screen.

6.

Linebarger, D., Guernsey, L., & Lewis, M. (2009, November 30). Educational Media: Screen Time and Literacy. (D. Pompa, Interviewer) Reading Rockets.

Screens, including Televisions, Movies, Cell Phones, etc. have immersed our lives and the lives of our youngest kids. The amount of television and other screen time our children are getting is increasing rapidly. The experts interviewed in this webcast from Reading Rockets (<http://www.readingrockets.org/webcasts/3005/?trans=yes>) discuss how screen time is affecting our young children and the impact it has on schooling. They come to numerous conclusions including parents are the model for appropriate screen time, type of screen time must be monitored, and technology isn't all negative. It also opens up doors for appropriate modeling and classroom use.

7.

Monke, L. (2005). The Overdominance of Computers. *Educational Leadership* , 63(4), 20-3. Retrieved from OmniFile Full Text Select Database.

The author of this article presents that computers are high tech tools that come with high responsibility. The author examines use of computers in the classroom and its effects on student learning and social interaction. The article warns that although computer programs can help struggling students learn to read, face to face interaction is a key ingredient that seems to be declining. The author concludes that computers are a tool to be introduced as students are ready for the responsibility.

8.

No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).

No Child Left Behind Act of 2001 (NCLB), is a major federal reform of Elementary and Secondary Education . It was passed by Congress and signed into law by president George W. Bush on January 8, 2002. The Act sought to tackle education reform for all children. An important literacy component of NCLB is to make certain all children learn to read on grade level by the end of third grade.

9.

Perle, L. (2011, February 7). *Setting Screen Limits: Not All Screens are Created Equal*. Retrieved July 19, 2011, from Common Sense Media: <http://www.commonsensemedia.org/advice-for-parents/setting-screen-limits>

Children are growing up in front of a numerous variety screens which has an impact on school readiness. The author expresses that the solution is not turning everything off. Adults need to guide children to the appropriate quantity and quality of screen time children are receiving.

10.

Rideout, V. J., Vandewater, E. A., & Wartella, E. A. (2003). *Zero to Six: Electronic Media in the Lives of Infants, Toddlers, and Preschoolers*. The Henry J. Kaiser Family Foundation.

This study is a large-scale national study on the role of media in the lives of infants, toddlers and preschoolers in America. This study was a randomized telephone digital survey of over 1,000 parents of children ages six months through six years from the spring of 2003. The findings of the survey are a stepping stone for further research into more specific causal relationships between media and issues facing children today.

11.

Schmidt, M. E., & Vandewater, E. A. (2008, Spring). Media and Attention, Cognition, and School Achievement. *Future of Children: Children and Electronic Media , Volume 18 , Number 1*.

In this article for www.futureofchildren.org, authors Vandewater and Schmidt review research findings in search of links to academic achievement, attention and cognition. One key finding is that content makes more of an impact than the actual media type. Entertainment TV has a small negative correlation with achievement while educational TV has a positive correlation with achievement.

12.

Schmidt, M. E., Rich, M. M., Rifas-Shiman, S. L., Oken, E. M., & Taveras, E. M. (2009, March 1). Television Viewing in Infancy and Child Cognition at 3 Years of Age in a US Cohort. *Official Journal of the American Academy of Pediatrics Vol. 123 No. 3 , pp. e370-e375*.

The objective of the research done and presented in this article is "to take a look at the extent to which infant television viewing is associated with language and visual motor skills at 3 years of age." The findings were compiled via a longitudinal survey. They found "television viewing in infancy does not seem to be associated with language or visual motor skills at 3 years of age."

13.

Snow, C. E., Burns, S. M., & Griffin, P. (1998). *Preventing Reading Difficulties in Young Children*. National Research Council.

Many children struggle with literacy problems. This books investigates what reading instruction is and methods for avoiding literacy problems. Sufficient early reading instruction involves children: "use reading to obtain meaning from print, have frequent and intensive opportunities to read, be exposed to frequent, regular spelling-sound relationships, learn about the nature of the alphabetic writing system, and understand the structure of spoken words."

14.

Subrahmanyam, K., Kraut, R. E., Greenfield, P. M., & Gross, E. F. (Fall/Winter, 2000). The Impact of Home Computer Use on Children's Activities and Development. *The Future of Children: Children and Computer Technology* .

This article focuses on how the use of a home computer affects adolescents. A portion of the findings suggest that home computer use increases academic achievement. These findings, however are linked to socio economic status. The same families who have home computers are higher in economic status, which is an indicator of higher academic achievement already.

15.

Vandewater, E. A., Rideout, V. J., Wartella, E. A., Huang, X. M., Lee, J. H., & Shim, M.-s. P. (2007, May 1). Digital Childhood: Electronic Media and Technology Use Among Infants, Toddlers, and Preschoolers. *Official Journal of the American Academy of Pediatrics Vol. 119 No. 5* , pp. e1006-e1015.

The research presented in this article describes media uses in children age 0 to 6. In the conclusion, the research shows young children's lives saturated with media. Children have more exposure to media including many television sets in children's bedrooms. The researchers conclude that much more research is needed on the effects of this media use on the development and health of children.

16.

Walsh, D. (2002). Kids Don't Read Because They Can't. *The Education Digest* , 67(5), 29-30 Retrieved from Education Full Text Database.

Children are spending more and more time in front of the screen. We are not simply talking about television, but video games, etc. too. The article says time spent in front of a screen is time spent not reading. Children choose this route as the path of least resistance. Screen time is instant gratification, where reading takes time, effort, and hard work. The article concludes that there are many factors hindering progress in the classroom, but too much screen time is one of them... so let's do something about it! Create readers, not couch potatoes.

17.

Zehr, M. A. (2009, October 21). Pre-K Lessons Linked to TV Produce Gains in Literacy, Study Says. *Education Week*, (Vol. 29). (08), 9. Retrieved July 19, 2011, from Educators ZReference Complete via Gale.

This article outlines a randomized controlled study investigating using technology to enhance literacy curriculum in preschools. The research concluded that using the technology to support literacy within the program produced significant gains in literacy. They warn, however, the children are not being set in front of the screen unattended. They are being actively engaged and questioned as part of the viewing and learning experience.

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