### Theme: Media Literacy and Early Childhood Education

We offer a wide variety of resources for parents and educators interested in media literacy for early childhood education.

### Research Highlights

We follow a team of library researchers who discover that the accessible information technologies are helpful but not sufficient to spur early literacy development, whereas parental involvement is crucial if young children are to acquire early literacy skills. We also review the research on the quality of literacy-focused applications for young children on the market today.

### CML News

We recommend Ofcom’s recently published study on the media attitudes of children and parents in the UK, and CML attended the Global Alliance on Media and Gender in Geneva.

### Media Literacy Resources

Find a long list of tech resources for early childhood education.

### Med!aLit Moments

*In this MediaLit Moment, I’m Representin’ (myself), your students will use a simple activity to help them understand the choices they make when representing themselves to others.*
Almost inevitably, the mention of media and early childhood development leads to a discussion of the negative effects of television on infants and toddlers. Those effects have certainly been documented. For example, one study from the most recent *Pediatrics* statement on children and media use found that heavy television use by children younger than 2 years led to short-term language delays, and that children younger than 1 year who are heavy television viewers and watch alone have a significantly higher chance of having a language delay (*Pediatrics, "Media Use by Children Younger Than 2 Years,"* 2011). And yes, it's also true that television remains the dominant medium for most young children (Common Sense Media, "Zero to Eight," 2013).

Of course, children's educational television is worthy of note. In a video presentation in December of last year, Michael Rich, Director of the Center on Media and Child Health, shared the results of a study he directed with 700 3-to-5-year-old children which compared children who watched "Sesame Street" with children who watched entertainment television or no television at all. Those who had watched "Sesame Street" were more ready for school, had more pre-reading and pre-math skills. More than anything else, they came away with greater pro-social skills. ([https://www.youtube.com/watch?v=g143_BzAx5A](https://www.youtube.com/watch?v=g143_BzAx5A)).

However, we would argue that it would be better to spend somewhat less time examining the good or ill effects of "exposure" and more time developing critical thinking skills and exploring the educational potential of interactive experiences between parents, children, screen media, and the material world. For example, in *Screen Sense: Setting the Record Straight: Research-Based Guidelines for Screen Use for Children Under Three Years Old*, published by Zero to Three National Center for Infants, Toddlers and Families, the authors review current research and issue a number of recommendations for parent-child interaction. Here's a sample:

- Help children make the connection between what they see on screen and in the real world by playing games using objects similar to what they've seen on screen, and by pointing out and labeling objects in real life that they've seen on screen.
- Create ways to extend children's learning from media—for instance, by acting out a story based on the content of the show they've recently watched, or applying the colors they've learned by labeling the colors of the family's clothes as you sort laundry together.
- When children are watching TV, co-view and make it a language-rich, socially interactive experience. Ask questions. Label and provide descriptions of what they are seeing. Talk about the storyline. Having support to interpret the content enriches children's experiences and expands their learning (Lerner, C., Barr, R., pps. 3-6).

When parents and children are in dialogue about what they see on screen, media literacy learning can be activated through the use of CML's Key Questions for young children:
Key Question #1: What is this? How is this put together?
Key Question #2: What do I see or hear? Smell? Touch? Taste? What do I like or dislike about this?
Key Question #3: What do I think and feel about this? What might other people think and feel about this?
Key Question #4: What does this tell me about how other people live and believe? Is anything or anyone left out?
Key Question #5: Is this trying to tell me something? Is this trying to sell me something?

In addition, those who focus only on television are ignoring the exploding market of educational applications for e-readers, tablets and other mobile devices. As of January 2015, the number of ‘educational’ apps in the Apple Store stood at 80,000. In a sense it’s the new “Wild West” on the media frontier. Many educators with an entrepreneurial bent are following their passions to create innovative and effective games and programs. By the same token, educators are often not included in the development teams for many, if not most of these apps, and, without reliable guidance, many parents and educators will struggle to determine what apps might actually meet the educational goals they hold for their children and students.

The 2012 position statement by the Fred Rogers Center and the National Association for the Education of Young Children, "Technology and Interactive Media for Early Childhood Programs Serving Children from Birth through Age 8," deftly comments on the issue of screens and screen time: "All screens are not created equal . . . As digital technology has expanded in scope beyond linear, non-interactive media to include interactive options, it is evident that each unique screen demands its own criteria for best usage. The challenge for early childhood educators is to make informed choices that maximize learning opportunities for children while managing screen time and mediating the potential for misuse and overuse of screen media, even as those devices offer new interfaces that increase their appeal and use to young children” (3).

In this issue of Connections, we offer a wide variety of resources for parents and educators interested in early childhood education. In our research articles, we follow a team of library researchers who discover that the accessible information technologies are helpful but not sufficient to spur early literacy development, whereas parental involvement is crucial if young children are to acquire early literacy skills. We review research on the quality of literacy-focused applications for young children on the market today, and offer a MediaLit Moments activity for early elementary students.
Research Highlights

A Tale of Two Libraries
While new media and communication technologies hold great potential for revolutionizing learning in the 21st century, that potential is rarely, if ever realized without assistance--from parents, school leaders, librarians, and professional development and technology coordinators. The use of media technologies at two libraries in Philadelphia presents one poignant case.

In 1996, the William Penn Foundation launched a $20 million effort to transform 32 neighborhood branch libraries in the city into a technologically modern urban library system. In Giving Our Families a Fighting Chance: Poverty, Literacy and the Development of Information Capital, Susan Neuman and Donna Celano profile the uses of print and media technologies in two of the libraries funded by the Penn Foundation: one, in "The Badlands," a severely economically disadvantaged community, and one in Chestnut Hill, a neighborhood nominated by Forbes magazine as one of the seven "top urban enclaves" in the nation. The Penn Foundation wanted to know whether greater access to print and information could break down any of the walls that typically impede educational attainment in disadvantaged communities.

Neuman and Celano, with the help of ten doctoral students in urban ethnography from Temple University, engaged in multiple field work techniques within the libraries: situated listening, interviewing, detailed observations of interactions with family, peers, computers and reading materials. They shadowed library personnel, examined the broader context of activities, and the general activity setting of the libraries themselves through frozen time-checks to determine hour-by-hour involvement. The study was conducted for more than 10 years, with data first gathered before the introduction of new computers at each building, followed by another phase for the six years after the introduction of the technologies, and another five year phase as their novelty began to wane.

Numerous similarities exist between branches. Both the Chestnut Hill branch, and the Lillian Marrero branch in the Badlands offer a veritable candy store of reading choices, including newspapers, magazines, and books on every imaginable topic. The numbers of young adults at Chestnut Hill and Lillian Marrero on any given day are more or less comparable (157 at Marrero, 115 at Chestnut Hill). The amount of time adults and teens spend reading at both libraries is relatively stable. But from there, the differences begin to emerge.

At Lillian Marrero, some teens and ‘tweens are reading books and materials designed for younger children. Students read at their age level about 58% of the time, and 42% of their time is spent reading "down" (50). It's possible to see early teens reading Highlights or Dr. Seuss books. By contrast, teens' reading level at Chestnut Hill is at age level, or slightly higher. Neuman and Celano ask, are the students at Lillian Marrero poor readers, still learning to read while their counterparts are already reading to learn? Do the differences
have to do with self-efficacy? With their socialization with regard to reading and its purposes?

The mystery is unraveled in the preschool settings of each library, where the research team discovers stark differences--in attendance, activity, length of stay, number of check-outs. At Chestnut Hill, children always seem to enter the preschool area accompanied by an adult--most often their mother, but occasionally by a father, a nanny, a grandmother. In the Badlands, young children almost always enter alone, sometimes with a sibling, but very rarely with an adult. Little children--3 and 4 years old, some maybe even as young as 2--wander alone in to the preschool area. The ensuing scene can be frenetic. They will often pick up a book, flip through some of the pages, look at the cover, pause for a moment to try to figure it out, and then put it down. "Flipping" is a short-burst activity; typically, a child will spend no longer than 2 minutes before frustration mounts (53).

At Chestnut Hill, "the activities are highly routinized. Invariably, the accompanying parent takes charge, suggesting books, videos, or audiobooks to check out. Sometimes the parent might pull a book down and let the child examine it or ask a child what types of books to look for. But the parent is clearly in charge: in a very authoritative manner, they sometimes note, 'That book is too hard for you,' 'That is too easy,' or 'This one might be better.' Parents steer children to challenging selections, sometimes appeasing them with a video selection as well. Visits are brief, highly focused, and without exception, end with checking out a high volume of books, and often DVD's" (52).

At Lillian Marrero, a parent will occasionally accompany a child in the area: "A father and two children enter the preschool section. He spreads some papers on a table. 'Go sit down! You're in a library!' he says in a loud whisper. 'Go get a book,' he orders. One child sits in the stroller while the preschooler picks Henry's 100 Days of Kindergarten, a brightly illustrated picture book and starts to page through it. After a few minutes, she turns to her dad and says, 'Can you read this? Please?' Looking like he'd much rather finish his work, he gives in.' As she sits next to him, he begins to read haltingly, pointing to each word as he goes (54).

The parents at Chestnut Hill, by contrast, are highly attentive: "Phoebe, age 2, bounds up to her mother with a board book to read. Although her mother is talking to a friend, she stops and instantly turns her attention to her child. She reads the first page, 'I've got sunshine on a cloudy day.' As the child looks at the picture, her mother adds, 'I think this is a song.' She turns the page. Phoebe points to the baby in the photo and the mother asks her, 'What is the baby doing? What does this baby have?' Little Phoebe doesn't answer. The mother asks another question, trying to help Phoebe respond. She points to the colorful toy guitar that the child in the picture is holding. 'What is that?' No answer. 'What does this look like?' The mother gently persists. Phoebe whispers in her ear, 'A Guitar' "(55).

Neuman and Celano note that parents' active monitoring and guiding in their child's activities at Chestnut Hill are closely aligned with 'concerted cultivation,' a child-rearing strategy.
identified with middle-to upper-middle-class families by University of Pennsylvania sociologist Annette Lareau in her 2003 book Unequal Childhood. These mothers often have the luxury of part-time employment and/or nannies which allow them to devote 'quality time' to their children.’ In contrast, children in the Badlands are more likely to be raised in a spirit of 'natural growth.’ Parents work many hours at low-paying jobs and struggle with ever-changing work shifts. Young children often spend less time in the company of adults such as parents or teachers, and more time with other children in self-directed, open-ended play. Neuman and Celano write, "They are encouraged to be independent, and in the process of making their own way, they learn important life skills. But the skills they do not receive are those essential for early reading development. For these skills, there is no replacement for the guidance and scaffolding from an adult” (66).

The advent of computers at the preschool area of Lillian Marrero conveys an air of promise. The keyboards are child-friendly, brightly coded with primary colors to identify alphabet keys apart from function keys. On the monitors, icons of a musical keyboard cued children to a host of math and reading choices and other programs, from the Curious George software featuring a reader-friendly voice to book-game sets like Stellaluna. The children's play, however, is not as self-sufficient as it appears. Subtle things throughout programs require adult assistance and interpretation. Without help, children often revert to random clicking analogous to the "flipping" of print books (72).

The researchers reasoned that, once adults at Lillian Marrero became comfortable with the computers, patterns of use would likely change. Instead, the activity of adults in these settings remained remarkably stable. They might watch, and occasionally encourage their children, but remained at a distance. Parents' discomfort with the machines was sometimes palpable. One mother, for example, tries to start one of the programs for her young toddler. After one try, she gives up, asking an assistant to "find her something to do with alphabets." The assistant attempts to explain the procedure: "You've got to close one program, click on another to get into JumpStart Toddler, and here's the activities to do with the alphabet." The mother moves to another table, demonstrating through her body language that she wants nothing to do with this. Her daughter ends up using Green eggs and Ham, wildly guessing letter and word combinations (73).

At Chestnut Hill, four-year-old Scott and his mother are having a great time playing Millie's Math House. He is using the mouse and generally doing well. His mother gives him directions, encouragement, and suggestions on how to play. She laughs when something amusing happens on screen, and rubs his back when he does something right. "See that one has seven jellybeans, but you need five jellybeans for it to go into the number-five slot. So what do you need to do?" (75).

Despite the bells and whistles in the computer programs, none particularly hold the child's attention very long. In both libraries, children tend to open a program, play a little bit, and move on to another. But there are differences in the lines of print children are likely to read
during these play activities. More often, there are no lines of print in the activities for children at Lillian Marrero. Even with the modest amount of print in many applications at Chestnut Hill, children are still likely to spend about twice the amount of time with material containing print than their counterparts at Lillian Marrero (80).

Regardless of medium, the discrepancy in literacy skills at Chestnut Hill and Marrero widened as students progressed into their 'tweens. Students at Marrero tend to read print materials that are entertaining and easy; researchers found a pattern of reading/browsing puzzle books and books on entertainment figures and games. Similarly, when they are on the computers, they are likely to spend time on entertaining websites, watching movies or game-like shows. In contrast Chestnut Hill students spend 12 times the amount of time on informational reading materials in print; similarly, they spend about 5 times as much time on informational texts on computers. Rough calculations suggested that about 39% of these informational activities related to homework for students in Chestnut Hill, versus about 9% in Lillian Marrero (89).

Clearly, the introduction of equal technology resources did little to level the literacy and information playing field among children. What parents and children still needed at Lillian Marrero were social and educational supports, certainly from library staff, and perhaps from other agencies or programs, to learn the "serve and return" interchanges with children that are so well documented as a driver of literacy learning for children, as well as the training to make the best use of the new technologies for learning. Without that support, integration of technology into early childhood education programs is much less likely to be successful.

RESEARCH: The Quality of Apps

In 2014, Michael Levine at the Cooney Center and Lisa Guernsey at the New America Foundation wondered, how many literacy and language apps are featured prominently on lists in apps stores because of their popularity, what skills do they claim to teach, and with what strategies? They also wondered, are parents likely to encounter the same apps if they looked at expert review sites to guide their choices? Levine and Guernsey brought in two colleagues, Sarah Vaala, a communications, literacy and health promotion scholar at Vanderbilt University, and Anna Ly, a tech designer and industry innovations expert based at the Cooney Center. Sarah and Anna started collecting lists of the 50 most popular paid and free apps in the education sections of three app stores -- iTunes, Google Play, and Amazon--over an eight week period in February and March of that year. From the full list of 1,200 titles, the team selected apps that were intended for children zero to eight and focused at least in part on teaching language and literacy skills. Of that group, they selected apps that were highly rated or received commendation in that year from three review sites: Children's Technology Review, Common Sense Media, and Parents' Choice Awards. From these lists the team arrived at a sample of 184 apps.

Next, the team coded descriptions written by app developers for their mention of educational elements, including language and literacy skills they claimed to teach, any stated strategies
used to teach those skills, and whether the design team included experts in education or child development.

Here’s a sampling of the results: Of the 184 language and literacy apps, 60 were recognized as award-winning apps by the three expert review sites. Of these, just 11 (17%) were among the 50 most popular educational apps in the iTunes, Google Play and Amazon app stores. Levine and Guernsey write, "...there appears to be a chasm between what experts like and what is showing up in the 'most popular' lists in the app stores" (Tap, Click, Read, p. 81).

The team coded the sample for twenty-one different strategies for teaching language and literacy skills and knowledge culled from reviews of research and best practices for teaching young children. Just eight were mentioned in apps’ descriptions repeatedly. Most were strategies for teaching early, rote skills, such as matching letter sounds to letters, labeling objects on screen, and sounding out phonemes. What was left out? Developers generally did not claim that their apps elaborate on the meanings of words, model interpersonal dialogue, ask the child open-ended questions along the way, summarize narrative or educational content, or provide opportunities for written or spoken expression.

40% of paid, 32% of free and 36% of awarded apps published information about developers. Of those, many say there is a child development or education expert on the team. Those experts were noted in 79% of paid, 60% of free and 50% of awarded apps. The inclusion of a literacy expert was quite rare, showing up in just 11% of top paid and 15% of top free apps.

Signs of a sequenced or thoughtfully designed approach to teaching were also rare. Only twenty-nine percent of the apps made any mention of having a curriculum. When a curriculum was mentioned, more than half named a specific set of standards or teaching philosophy underlying the app’s development, such as Common Core or Montessori. Just two percent of apps directly mentioned that research was conducted to assess learning from the product.

In sum? Levine, Guernsey and their team found that, though literacy apps are among the most popular and successful apps in the education category, their content, design, production and distribution are too often characterized by a lack of transparency, overhyped or unsubstantiated claims, a lack of curriculum guidance or alignment with standards, as well as a lack of child development or learning science content knowledge among developers, and an incomplete response to children’s literacy needs.

For parents and teachers who want practice in judging the quality of apps, an article published in May of this year by Psychological Science in the Public Interest might prove invaluable. In “Putting Education in ‘Educational’ Apps: Lessons from the Science of Learning,” Kathy Hirsh-Pasek, Professor of Psychology at Temple University, along with a number of colleagues, including one each from the Sesame Workshop and the Fred Rogers Center for Early Learning and Media, advance the psychologically-oriented account of learning dubbed “The Science of Learning” as a model for judging the quality of educational
The name might be forgiven, in light of its roots in the 1970s, but it is pretty well defended. The Four Pillars of the Science of Learning?

- Active Learning
- Engagement in the Learning Process
- Meaningful Learning
- Social Interaction

Though we don’t have room to comment on all four of these pillars, some aspects of engagement are worth discussing here. Engagement comes in at least a few different forms: behavioral, cognitive, and emotional. Each type is critical because they all foster staying on task.

The flip side of engagement is distraction. For example, in one study children learned fewer novel words and fewer facts from a pop-up book relative to a simpler, unenhanced storybook. Even when extra features were designed to call attention to a specific learning goal (e.g., letters in an alphabet book), children learned best when they were able to stay on task using a simpler version of the book (11). Using apps as an example: an app that focused on the giant dog Clifford began by reading the story to the child, and the narrative was progressing naturally with an introduction of the main characters and a story arc when buttons were suddenly displayed on the screen and children were asked to find things that "begin with the letter C." The authors note that breaking the narrative in this way disrupts learning. "Indeed, in an empirical study, the 'bells and whistles' placed within a story presented on an electronic console interfered with 3-year-olds' understanding of story elements such as the plot" (13).

Each of these four components is illustrated with abundant references to research. Wherever possible, they discuss research focused on television and apps, and discuss possible uses of apps for each. The article closes with an exemplar analysis of an app called "Alien Assignment," which combines on-screen interactions with a search for objects in one’s own home (objects that a stranded family of aliens can use to repair their ship and fly back home). While the scholarship in the article is rigorous, the application of the four "pillars" to analysis of this example may inspire confidence in your own ability to evaluate your next purchase in the app store.
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| **CML attends Global Alliance on Media and Gender**  
The Global Alliance on Media and Gender (GAMAG) is an outcome of the UNESCO-led 2013 Global Forum on Media and Gender held in Bangkok, Thailand in 2013. The First GMAG General Assembly was held December 9-10 in Geneva, Switzerland at the United Nations' Palais Des Nations; CML's Tessa Jolls served as a delegate; a new international university network for GAMAG is being formed along with a Framework for future work in gender and media. |
| **CML recommended reading:**  
In a report released in November, Ofcom (UK) examines children's media literacy and provides detailed evidence on media use, attitudes and understanding among children and young people aged 5-15, as well as detailed information about the media access and use of young children aged 3-4. The report also includes findings relating to parents’ views about their children's media use, and the ways that parents seek - or decide not - to monitor or limit use of different types of media. Find the report [here](#). |
| **About Us...**  
The Consortium for Media Literacy addresses the role of global media through the advocacy, research and design of media literacy education for youth, educators and parents.  
The Consortium focuses on K-12 grade youth and their parents and communities. The research efforts include nutrition and health education, body image/sexuality, safety and responsibility in media by consumers and creators of products. The Consortium is building a body of research, interventions and communication that demonstrate scientifically that media literacy is an effective intervention strategy in addressing critical issues for youth.  
[www.consortiumformedialiteracy.org](http://www.consortiumformedialiteracy.org) |
Resources for Media Literacy

Resources: Ed Tech for Early Childhood Education

CML Key Questions to Guide Young Children
Adapted for inquiry learning for younger children, these may be found at:
http://www.medialit.org/reading-room/key-questions-guide-young-children


This book offers early childhood educators and professional development providers a guide to effective, appropriate and intentional use of technology with young children. It provides strategies, theoretical frameworks, links to research evidence, descriptions of best practice and resources to develop digital literacy knowledge, skills and experiences for early childhood educators practicing in a digital age. Donohue is the Dean of Distance Learning and Continuing Education, as well as Director of the TEC Center at the Erikson Institute in Chicago.

In addition to the fact that this anthology offers perspectives from seasoned professionals in a variety of relevant fields, the book mentions more helpful ed tech resources than one can shake a stick at. These range from question, answer and activity sites such as Wonderopolis; to book production applications such as Blurb; multimedia class portfolios securely shared among teachers, students and parents such as Kaymbu; applications for real-time communication between children and parents such as Message from Me; multimedia storytelling apps such as StoryKit, lists of app review sites, and much more.

Other Resources:


While most of us think of parent-child interactivity as something associated with co-viewing and early print literacy skills, this paper shows how a curriculum which moved between episodes of Sid the Science Kid, complementary PBS computer games, and designed hands-on activities allowed children to engage with science concepts such as reversible change.


From the preface: "We want to show you the state of literacy and children’s reading at this tumultuous, technologically driven moment--and what it could look like if we forged ahead with
some new ways of thinking and teaching to help a greater number of kids. . . Which features and habits related to these new technologies will serve them well? What should be avoided? How might the answers differ for different children in different circumstances? (16-17). Guernsey and Levine attempt to answer these questions with a wealth of examples (and research, and theoretical analysis) drawn from a number of fields.

U.S. Department of Education Office of Educational Technology

While a publication like this might seem tangential to the pedagogical goal of finding ways to help young readers thrive in a digital age, this guide makes it clear that entrepreneurs can play a critical role in supporting educators--if they can imagine stepping into a teacher's shoes and so imagine the kinds of tools and resources they need to be effective. Start with the biographies/commentaries of such luminaries as Alice Wilder, producer of *Blues Clues*, for inspiration (p.29). Then wade through detailed DOE requirements if you wish.

Center on Enhancing Early Learning Outcomes (CEELO)
CEELO Annotated Bibliography: Using Technology in Early Childhood Classrooms

This is one good place to start your own research review in the field. The bibliography includes a listing of organizational resources as well.

The Fred Rogers Center for Early Learning and Children's Media at Saint Vincent's College
http://www.fredrogerscenter.org/

The Digital Media and Learning section of the Fred Rogers site includes a pretty lively blog.

**Sources Cited:**


National Association for the Education of Young Children. *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8.* Washington, DC. Joint position statement of the NAEYC and Fred Rogers Center for Early Learning and Children's Media at Saint Vincent's College, 2012.
Med!aLit Moments

I’m Representin’ (Myself)
One of the simplest and most meaningful media products a young child can make is a creative representation of him or herself. In this MediaLit Moment, your children or young students will get the chance to make creative decisions about what represents their character or identity.

Ask students to create a photographic scene which tells audiences something about who they are.

AHA!: I have to make choices to show who I am!

Grade Level: K to 2

Key Question #1 for Young Children: What am I making? How do I put it together?
Core Concept #1 for Media Literacy: All media messages are constructed.
Key Question #2 for Young Children: What do I see or hear/touch or taste? What do I like or dislike about this?
Core Concept #2 for Media Literacy: Media messages are constructed using a creative language with its own rules.

Materials: Your choice of high tech or low. Use a multimedia portfolio system such as Kaymbu, or a low-budget camera.

Activity: Ask your child or student to take a photo that will appear at the beginning of their digital portfolio, or that could be posted to their cubby (or any relatively sizeable classroom item that belongs to them). Encourage the use of props, gestures, facial expressions, art work or even text to make a statement about who they are or what they are like.

After the photo's been taken, ask them to explain the creative choices they made. What did they tell other kids and adults about who they are?

The Five Core Concepts and Five Key Questions of media literacy were developed as part of the Center for Media Literacy’s MediaLit Kit™ and Questions/TIPS (Q/TIPS)™ framework. Used with permission, ©2002-2015, Center for Media Literacy, http://www.medialit.com