

# Chapter Five: Evaluation of New Media

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With more than a million apps on the market, finding and evaluating new media for use in library programs and to share with families or caregivers for use at home can be a daunting task, especially for the new user. The process can seem complex, but understanding how new media, and in particular apps, work will quickly enlarge a children's librarian's storytime toolkit and empower librarians as media mentors to help library patrons, young and old, access information in all its forms.

Since the launch of the iPad in 2010, the diversity of software for kids, especially young children and children with special needs, has been astounding. While there are many curated resources to assist consumers selecting apps, there still is no simple guidebook to navigating the vast amount of content or pace of change that is found in the new media space. As a result, families and professionals searching for quality educational apps for children need to create their own evaluation criteria. In this chapter, librarians, library support staff, and other educators will find the

information needed, including a rubric, to thoroughly and successfully evaluate new media and, in particular, apps.

Librarians have unique institutional and cultural knowledge that bridges formats as reading and storytelling evolve. Their natural instinct to be "format agnostic" is well suited to the digital shift, as people consume content in new ways over time. As part of this shift, librarians will recognize a natural progression from evaluating print picture books to digital picture books. Grounding this process in established evaluative criteria, and expanding from there, can give professionals, and ultimately parents, the confidence they need to become savvy evaluators of apps.

For example, Table 1, adapted from "ECRR 2.0: Using Apps & eBooks in Early Literacy Programs", a LittleLit presentation at the 2014 annual American Library Association Conference, shows how print evaluation criteria can be built upon when exploring new media.

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**Table 1: Application of Print Evaluation Criteria to Digital Formats**

| <b>Criteria Consistent Across Formats</b>   | <b>New Criteria to Consider for Digital Formats</b>   |
|---|---|
| High Quality Illustrations  | Relevant Digital Enhancements (interactivity, animation, etc.) to Support Narrative           |
| Easy to Read, Large Font  | Seamless Integration of Features, Settings & Digital Enhancements                             |
| Developmentally Appropriate Content (Length, Reading Level, Topics, Language, Etc.)   | No Interference between Audio, Sound Effects and Narration (if present).                      |
| Well-written, Chunked & Paced Text for Intended Audience Age/Attention Span           | Technical Polish: Stability, Ease & Flexibility of Use, Good Navigation, Clean Design.        |
| High Quality Content (not thinly disguised advertisement for game, movie, food, etc.) | No ads, In-App Purchases or Links that Leave App (unless under restricted parental gate*).    |
| Engaging Content (worthy of many return visits by intended audience)                  | Clearly Identified Content Creators (author, illustrator, developer, publisher, etc.)         |
| Ways to Extend Experience Beyond the Book   | Quality Games or Extras (if present) That Do Not Interrupt Narrative or Reading Comprehension |

\*A parental gate is an app feature that functions as a "parental precaution before linking outside of the app" (Akemann, 2013). Examples include completing math equations, pressing and holding the screen for a certain length of time, and swiping the screen in a specified direction.

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## Developmental Considerations

Developmental needs for young learners of different "ages and stages" (Child Development Institute, n.d.) can also be considered as a general guide for families and professionals evaluating apps for children. Some things to consider, age by age, include:

- **Age 0-3** – Focus is on relationship with caregivers, so look for apps that connect/engage children with a caregiver, but use judiciously. Don't forget to consider the caregiver's engagement as a way to enhance any of the 5 early literacy practices.
- **Age 3-6** – Focus is on relationships, including peers. Look for engagement with others, dialogic reading opportunities, turn-taking, etc., as well as literacy supports like highlighting word-for-word in eBooks & apps.
- **Age 7-11** – Focus is still on relationships, but it is also important to consider engagement with subjects the child enjoys. This helps to foster a love of learning and reading, essential at this age when many avid readers become reluctant. Finding apps that go deeper into non-fiction topics, or

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support socio-emotional development, is ideal. School-aged app selection can also be guided by common core, but home use should be child-driven as much as possible.

- **Age 12+** – Adolescents are developmentally tasked with the “Four I’s” (independence, identity, integrity, and intimacy) but they are also “icebergs” (i.e., much goes on below the surface, often expressed in a need of privacy). Give plenty of choices from quality content that builds on these skills. Apps that teach how to protect themselves and manage their own digital citizenship are also good choices. Content creation for self-expression is particularly important for this age group.

### Digital Media: Special Considerations

The process of matching an app to the desired use (or educational need) and to the age and ability of the potential user is an intuitive process that will be familiar to most librarians, teachers, and even parents. However, apps and other new media can have surprises in store for anyone who grew up in the 20th Century. Popular media stories abound about pitfalls, like children who make large, unintended purchases or discover inappropriate content while unsupervised online (Troianovski, 2012).

Librarians, as 21st Century digital docents, can provide invaluable guidance to anyone along the path of app discovery. Not only can they draw parents’ and educators’ attention to signs of quality, they can also reveal these new dangers for kids, hidden in a

very attractive package. These dangers include things like:

- **Coercive monetization** – In-app purchases are not all created equally. If present in apps for children, then they should be under a parental gate and in content for older children, not disguised in any way to confuse or encourage purchases.
- **Links** – Especially in apps for young children, any links that leave the app without a parental gate should be avoided whenever possible. Most mobile devices can be set to “airplane mode” to disable online access, and many also include advanced settings to lock a device into a single app (called “guided access” on the iPad).
- **Advertisements** – Ads, even for other apps in a series, should be tucked away under a parental gate, especially in content for ages 8 and under.
- **Privacy** – Apps are not allowed to collect or share identifiable information from children under 13, so look for basic COPPA (Children’s Online Privacy Protection Act) compliance and a posted privacy policy.
- **Poor Quality** – In the self-publishing environment, watch out for apps with grammatical errors, poor translations, clunky interfaces, and other technical glitches. Aggressively test apps and all their features.
- **Updates** – Digital apps are updated regularly for free, including the addition of features and content. Parents, teachers, and librarians can be thrown off by changes in the app’s content or navigation,

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especially when the addition is unwelcome (like ads or new in-app purchases). Regular operating system (OS) updates for most mobile devices also can change the way an app functions, especially if the app is not well supported with stability updates by the developer.

- **Aging Apps/App Rot** – Over time, digital content can become unstable or even, in rare cases, removed from an app store entirely. Some content is removed by the publisher for business reasons, but most content that is removed is simply unsupported by the developer. This means that any content that is not currently installed on a device may not be able to be reinstalled unless the device is being regularly backed-up onto a computer.
- **Easter Eggs** – Some surprises in digital are meant to be pleasant, like the “easter eggs” or hidden enhancements that many developers put into their digital content. For instance, Pat the Bunny includes literal Easter eggs hidden within the pages, during the weeks leading up to Easter in an update that is seasonal.

### Evaluation Rubric

Based on current research and evaluation practices used for print media, an app rubric like the one provided in Tables 2 through 4 of this chapter will help both experienced and new librarians alike to determine if the app in question is best suited for a particular family or program. The rubric

is divided into two parts: the technical/ user experience criteria applicable to both story and toy apps (Part 1) and then the content criteria specific to either story apps or toy apps (Parts 2.1 and 2.2). For each type of app, there are essentially twenty-two questions to consider. This may seem time consuming at first, but over time these questions will become intuitive and the evaluation process will be less arduous.

As an app is evaluated for technical and content elements, a point is awarded for each question answered with a “yes.” While a perfect score is ideal, 11/11 technical elements for example, some apps may not get a perfect score but still have a valuable place in a program or a child’s learning experience. It may be helpful to consider Lisa Guernsey’s 3 C’s —Content, Context and Child—along with this rubric when evaluating apps for children (Guernsey, 2012).

As with other program tools, an app may be appropriate and engaging one on one or in small groups, but may not work well in a storytime setting. Another app may be most valued for its inclusion of multiple languages and a quality story, but may not include other desirable elements.

### *Part 1: Story and Toy Apps*

While different in their designs and goals, both story (book) apps and toy (game) apps should be evaluated according to several similar technical and user experience criteria. About all apps, librarians and caregivers should ask eleven questions (see Table 2).

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**Table 2: Rubric for Evaluating the Technical/User Experience of Story and Toy Apps**

| Yes (1) | No (0) | 11 Elements Found in High Quality Story <i>and</i> Toy Apps (Technical/User Experience)   |
|---------|--------|---|
|         |        | 1. Is the app's navigation clear for the intended audience? Does it have intuitive way-finding?   |
|         |        | 2. Does the app work free of glitches?  |
|         |        | 3. Do sound effects, if included, enhance the app experience? Are there settings for turning on/off music and other sound effects, if they are not crucial to the story or play?  |
|         |        | 4. Does the app feature a clean, uncluttered display?   |
|         |        | 5. Is the necessary equipment available to offer a positive experience? For example, is a large monitor needed to best view the app? Or is the tablet screen appropriate? Does the app require additional physical hardware?                        |
|         |        | 6. Is the app free of links to social media and the internet? If not, can access be disabled in the app or device settings?   |
|         |        | 7. Does the app developer state it will NOT collect data about you or your child within the app?  |
|         |        | 8. Are there developmentally appropriate cues for interactivity?  |
|         |        | 9. Are there parental tips, restrictions and settings within the app and/or within the device's settings to customize the child(ren)'s experience?  |
|         |        | 10. Do the app's technical features encourage joint media engagement?   |
|         |        | 11. Is the app free of in-app purchases or in-app ads? If not, are they easily ignored and hard to access by young children? For example, can in-app purchases be disabled in the device settings? Can a password be required for in-app purchases? |

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### ***Part 2.1: Story Apps***

Story apps, or book apps, have unique content and provide specific user experiences. As mentioned above, some

of the qualities of story apps are similar to those found in high-quality children's picture books, while some are specific to the digital format. Many book apps are in fact print books transformed for the

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digital environment. Like the creation of a masterful picture book, a high-quality app is the successful marrying of both artistic excellence and thoughtful technical elements. Story apps, when

done well, rely on both. When evaluating story apps, consider these additional questions specific to story apps (see Table 3).

**Table 3: Rubric for Evaluating the Content of Story Apps**

| Yes (1) | No (0) | 11 Additional Elements Found in High Quality Story Apps (Content)  |
|---------|--------|--|
|         |        | 1. Does the app feature a great story with high quality images and a narrative that entices the reader to read again and again? (Repetition deepens a young reader’s understanding of the story.)  |
|         |        | 2. Is the story original or is it a previously published story that is strongly enhanced in the digital form?  |
|         |        | 3. Does the app include accurate information and grammatically correct content?  |
|         |        | 4. Are the story’s characters culturally and ethnically diverse and include experiences that reflects today’s diverse families?  |
|         |        | 5. Is the content appropriate for the targeted age group?  |
|         |        | 6. Are opportunities to strengthen the <a href="#">Every Child Ready to Read</a> early literacy skills, where appropriate, included?   |
|         |        | 7. Does the app include meaningful interactive elements that maintain the story’s flow and add to the story instead of being only for interactivity’s sake? (Elements should engage the reader and should help the reader better understand the content instead of distract from the story.) |
|         |        | 8. Is the font plain and highly-readable, both of which are beneficial for the learning reader and for groups who are experiencing the app on either a small or big screen?  |
|         |        | 9. Are read-to-me and read-to-myself options available, allowing families to read and listen together? (Narration should be well-spoken and expressive.)   |
|         |        | 10. Does the app include multiple language options and a voice record option to foster literacy in home languages?   |
|         |        | 11. Does the app’s content encourage joint media engagement?   |

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### *Part 2.2: Toy Apps*

Toy apps, also known as game or creation apps, include activities, puzzles, and/or games, usually without the narrative found in a story app.

Sometimes these apps are overtly educational and strengthen skills like shape and color recognition. Other toy

apps involve imaginative play, drawing or digital painting platforms, or even basic computer programming and coding. Along with the technical and user experience features mentioned above, consider these additional eleven important questions specific to toy apps (see Table 4).

**Table 4: Rubric for Evaluating the Content of Toy Apps**

| Yes (1) | No (0) | 11 Additional Elements Found in High Quality Toy Apps (Content)  |
|---------|--------|--|
|         |        | 1. Does the app offer open-ended play?   |
|         |        | 2. Does the app's content encourage joint media engagement and collaboration?  |
|         |        | 3. Do the activities, games or puzzles foster creativity?  |
|         |        | 4. Is the content appropriate for the targeted age group?  |
|         |        | 5. Does the app strengthen one or more of the <a href="#">Every Child Ready to Read</a> early literacy practices, where appropriate? |
|         |        | 6. Are the activities, puzzles, or games customizable depending on the child's interest and experience?                              |
|         |        | 7. Is the app sufficiently engaging to warrant multiple uses?  |
|         |        | 8. Are the app's concepts presented clearly?   |
|         |        | 9. Does the app reflect diverse users by including culturally and ethnically diverse characters, environments, and experiences?      |
|         |        | 10. Are STEM/STEAM concepts addressed?   |
|         |        | 11. Are the images and/or graphic details high quality?  |

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Evaluating apps can be a complex process, especially for the new user. With more than a million apps for children on the market, choosing which apps to start with and then understanding how each of these criteria might look in an actual app can be a

daunting task. Consider the following app, and the accompanying evaluation, as an example of the process. The app has been critiqued based on the aforementioned rubric and criteria. Additional evaluations of high quality apps, including both story and toy apps,

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will also be found in the appendix of this completed book. These apps were selected to coincide with the five practices outlined by Every Child Ready to Read® @ your library® 2nd edition, as well as the early literacy skills they strengthen.

### App Evaluation in Action

#### *Felt Board*

**Developer:** [Software Smoothie](#)

**Audience:** 5 years+ (3 years+ with caregiver assistance)

**Operating Systems:** [iOS](#) and [Android/Amazon](#)

**Cost at time of review:** \$2.99

**Summary:** With the Felt Board app by Software Smoothie, children and caregivers design and tell stories with digital felt characters, costumes, backdrops, and other props that reflect a child's own experience or an imagined one.

**Technical/User Experience:** 11/11

The glitch-free, easy to navigate Felt Board app includes a toolbox on the left, a felt board (called the play area) in the center, and four buttons on the right side. The toolbox includes hundreds of story elements which can be selected by tapping and then dragging on to the backdrop or character. The app includes characters and props for several popular storytime songs, but is free of all sound effects or narration.

To accommodate young users and their developing fine motor skills, clothes fit characters automatically and lock in place when added. Characters and other props can be resized, turned, and moved around the play area. Unused story elements can be discarded by

tapping the recycle button and then the giggling element.

A short video tutorial is found by tapping the "?" button. The other buttons include a camera for saving an image of a created felt story to the device's photo gallery, as well as a gallery button which saves the story and all of its pieces for future use to a story gallery, a helpful feature for storytime preparation.

There are no in-app purchases, ads or links to social media or other web content to distract from the intended use. (The video tutorial does not provide access to additional YouTube content.) Software Smoothie includes its privacy policy on its website and does not collect or share personal data.

**Toy App Content:** 11/11

The richly-colored, digital felt characters and story pieces invite children and caregivers to play with the Felt Board app. They will be inspired to tell their own stories, or retell classics, together because of the wide array of characters, with a variety of skin colors, and a plethora of story pieces that can be added to the digital feltboard depending on user preference.

The open-ended nature of the app encourages repeated exploration. Telling stories about a trip to the zoo, for example, and singing traditional nursery rhymes together using this app, strengthens narrative skills and phonological awareness, both early literacy skills, in a new format. The multi-touch feature (multiple points of contact can manipulate the screen at one time) encourages joint media engagement by offering multiple users the opportunity to collaborate and contribute to the story.

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While STEM/STEAM concepts are not a focus of this app's *content*, they could certainly be integrated by the storyteller. However, age-appropriate technology concepts are introduced with this app. In addition to having opportunities to learn how the tablet itself works, storytellers learn to use "drag and drop," a basic gesture common in app technology, as they play.

### **Conclusion**

Ultimately, we are asking caregivers, teachers, librarians, and all adults "on deck" during this digital shift to consider print media alongside alternatives offered by new media when they explore books and other reading materials with young children (birth to five). This introduction needs to be judicious, thoughtful, and limited for our youngest readers, but understanding the world our children inhabit is essential for the adults in this process.

Even if librarians feel reticent about screens and media, being involved with the next generation as they digest changes happening across our cultural landscape benefits everyone. The value for kids who can become astute digital citizens is enormous. They can be the authors of their own lives in the digital age if we give them the necessary tools to explore new media. For anyone in the current generation of kids, authoring and influencing the code and content creation process is a powerful key to future doors that adults today can only imagine opening.

How families respond is individual, but how our community institutions behave has a large impact. Providing solid "reader's advisory" app

recommendations in public libraries, alongside ways for teachers to make quality content advice available for parents, is essential. With a vast majority of households owning a multitude of digital devices, we need to treat this space like a bookshelf. It's not the shelf that matters, but what's on display and how it is used. New media is no different from old media in this regard. Our end goal is to see families, communities, and libraries promoting a wide variety of quality digital content in the same way we promoted paper books in the past.

For many of us, the transition is merely about format, but the real power of this digital shift is the ability to reach beyond families that were already on board with reading and regular library visits. For many "digital" families, this may be the first time they have been to a library or found librarians useful—an amazing opportunity for our collective institutions to engage and influence a generation of kids.

Every day children's librarians and educators of all kinds recommend, select, purchase, and share books, audiobooks, magazines, videos, music, rhymes, and even games. Each title is chosen based on professional knowledge about the media itself as well as its early literacy value, childhood development considerations, and the needs and interests of families involved. As the interest in new formats, genres, authors, and illustrators evolves, librarians are responding not just with book recommendations, but as full-fledged media mentors, meeting the multimedia information needs of their communities. Apps and other new media are many of these things; a new format of a beloved board book for example,

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thus requiring our interest and informed opinion. But new media is also more than a format and a genre. It is an opportunity.

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