



Skill Generalization:

Intentional Use of Apps in Music Therapy Sessions and Beyond

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apps, b) embed them systematically in a session plan for goal achievement, and c) coach parents to continue using them across time for skill generalization.

Use of iPads and Apps in Music Therapy Practice

Over the past six years, music therapists have discovered that the iPad (or other tablets) can be a useful tool in music therapy practice. An iPad can turn into various digital instruments that are easily accessible for clients, a mobile multitrack recording studio, a portable library of songs and sheet music, or a tool for transposing music into different keys (Knight, 2013). Many music therapists use a wide variety of apps to support young children's therapeutic goals (i.e., social skills, communication, academic concepts, fine motor skills, and emotional expression), document progress, exchange information with team members, engage parents and families, or illustrate their work in presentations and meetings (Kern, 2013a, 2013b).

However, when using technology and digital media with young children, it is essential to consider the content, context, and child (Donohue, 2015). Which app best matches the child's interests, abilities, needs, and developmental stage? What constitutes a high-quality app, and in which context should it be used to support the therapeutic process and generalization of skills?

Nowadays, the use of technology and interactive media has become part of everyone's daily routines. Therefore, it is essential to effectively engage and empower young children with and without disabilities in actively using digital tools for enhancing learning and development in the early years. Assuring equitable access to safe, developmentally-appropriate, individualized, and interactive technology and media experiences prepares young children to thrive as digital citizens in an ever-changing world (NAEYC/Fred Rogers Center, 2012).

This article is based on the *Key Messages of the NAEYC/Fred Rogers Center Position Statement on Technology and Interactive Media in Early Childhood Programs* (NAEYC/Fred Rogers Center, 2012). It outlines how the intentional use of technology and interactive media tools such as iPads and applications (apps) can maximize children's learning outcomes in music therapy sessions and beyond. An example illustrates how to a) explore accessibility, content, and individualization of music

Selecting Music Apps for Learning and Development

Today, there are numerous music apps on the market which target young children who have different ability levels. Unfortunately, several lack essential design features of high-quality apps. Thus, music therapists and parents must critically appraise music apps by using existing guidelines or by considering professional reviews before embedding them as learning tools into music therapy sessions and into daily schedules and routines (Kern, 2011, 2013b).

In general, a well-designed educational app should support children's engagement, expression, imagination, and exploration (Donohue, 2015). Several published checklists offer users evaluation rubrics for selecting suitable apps for young children with disabilities. For example, More & Travers (2013) recommend rating apps for *accessibility*, *content*, and *relevance*. *Accessibility* criteria focus on the following universal design for learning (UDL) principles: Equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, and size and space for approach and use. The *Content* area emphasizes developmentally appropriate practice criteria including the child's interest, choice, and specific learning needs while addressing specific Individual Family Service Plan (IFSP) and Individual Education Program (IEP) goals and outcomes. *Relevance* refers to features that allow customization of the app to match the unique learning objectives of each child. Figure 1 offers an example of applying the three suggested rating rubrics to an app.

Embedding Music Apps in Sessions and Family Routines

When using music apps to support goal achievement in young children with disabilities, music therapists need to plan ahead and systematically embed the selected high-quality apps in session plans and family routines (More & Travers, 2013). In other words, music therapists should consider why, when, and how to use each app with individual clients. After identifying the right app for a given task, music therapists should decide during which section of the session plan the app makes the most sense. Active, hands-on engagement and empowerment of the child as well as adjusting the level of difficulty to the child's ability are vital for successful implementation of the app. Additionally, the music therapist should

KEY MESSAGES

When used intentionally and appropriately, technology and interactive media are effective tools to support learning and development.

Intentional use requires professionals to have information and resources regarding the nature of these tools and their implications of their use with children.

Limitations on the use of technology and media are important.

Special considerations must be given to the use of technology with infants and toddlers.

Attention to digital citizenship and equitable access is essential.

Ongoing research and professional development are needed.

From the 2012 NAEYC/Fred Rogers Center Joint Position Statement.

monitor whether the app supports the desired learning outcomes and make suggestions on how to effectively integrate the app during daily routines for enhanced learning opportunities and generalization of skills (Donohue, 2015).

Apps can be easily embedded into various settings, during different times, and across subjects and persons. Therefore, they are ideal tools for supporting skill generalization in young children with disabilities. When coaching parents and caregivers to use music apps during family routines, music therapists may guide them through the following five steps: a) provide a rationale for the selected apps, b) demonstrate how to apply the apps, c) practice using the apps with everyone involved, d) schedule days/times to practice the apps, and e) check in to see if the specific apps in use are effective in achieving the child's set goals. The following video vignette provides an example of how to embed an app into the home environment for skill generalization.

Video Vignette

Sally is a two-year-old girl with Down Syndrome. She recently learned how to walk but still relies heavily on her parents' and teachers' support for simple tasks such as gripping utensils firmly enough to feed herself and playing with toys independently. Children's songs, animal sounds, and musical instruments capture Sally's interest and motivate her to engage in interactive relationships with her music therapist and mother. Her intervention team identified two IFSP goals for her to work on: 1. Enhance fine-motor skills (i.e., finger isolation), and 2. Increase independence (i.e., self-directed exploration).

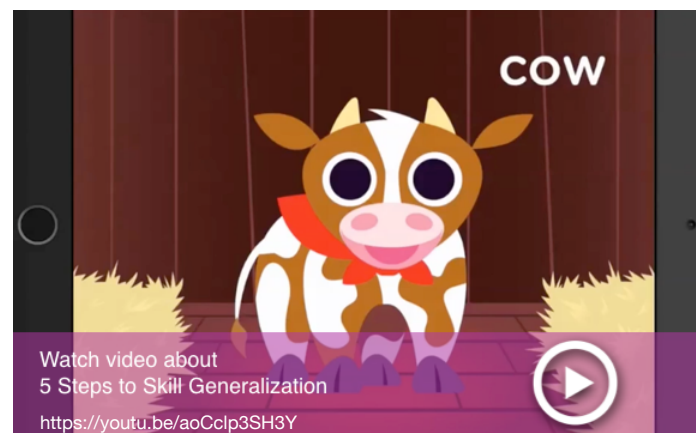
To support Sally's learning goals, the music therapist evaluated and selected the following two apps respectively: *Peekaboo Barn* by Night & Day Studios (Cost: US\$1.99) and *Lullaby Planet* by Francois Walter (Cost: US\$1.99). Figure 1 displays the evaluation of the first app using the *Preschool App Evaluation Guide* (More & Travers, 2013, p. 24). Both apps were embedded into Sally's home environment. The music therapist coached Sally's mother to continue using the apps during scheduled times during the week.

Preschool App Evaluation Guide				
Directions: Select an app with an educational purpose in mind and explore the app to decide whether it might be useful. Then, evaluate the app for these factors. Evaluate several apps to identify the most suitable app for the child you are working with.				
App Title: Peekaboo Barn Price: \$1.99				
1= Characteristic is Mostly Absent 2= Characteristic is Somewhat Absent 3= Characteristic is Somewhat Present 4= Characteristic is Mostly Present				Rating Scale
Accessibility				
App can be used by children with a range of abilities	1	2	3	4
App is easy for children to understand	1	2	3	4
Minimal adult assistance is required	1	2	3	4
Images and sounds are used to present important information	1	2	3	4
App gives corrective feedback in a positive way	1	2	3	4
App reduces fatigue and maximizes comfort for use	1	2	3	4
App allows enough space on the screen for 1 or more children to use it	1	2	3	4
Accessibility Total				27
Content				
App can be used by children with a range of preferences and interests	1	2	3	4
App encourages children to be interactive	1	2	3	4
App has multiple options for children to explore	1	2	3	4
App minimizes rote responses	1	2	3	4
App encourages children to find answers to problems	1	2	3	4
Language is appropriate for young children	1	2	3	4
New vocabulary is taught	1	2	3	4
Music is socially appropriate	1	2	3	4
App is free from violence	1	2	3	4
App avoids cultural stereotyping	1	2	3	4
App promotes diversity	1	2	3	4
App is free from advertisements	1	2	3	4
Content of app is challenging but not frustrating for children	1	2	3	4
Content Total				44
Individualization				
App teaches skills the children need in order to use it	1	2	3	4
App is compatible with the child's assistive technology	1	2	3	4
The difficulty of the app can be adjusted or changes based on child's response	1	2	3	4
App has options for prompting and other supports that can be turned on and off	1	2	3	4
Content of app addresses multiple skills	1	2	3	4
Use of app can be embedded into daily routine	1	2	3	4
Individualization Total				17
Notes: The error free nature of this app is its selling point.				Overall Score 88

Figure 1. Evaluation of the *Peekaboo Barn* app.

Source: More, C. M., & Travers, J. C. (2013). What's app with that? Selecting educational apps for young children with disabilities. *Young Exceptional Children*, 16(2), 24. Reprinted with permission.

The *Peekaboo Barn* app gave Sally the opportunity to practice finger isolation by swiping the barn door while the *Lullaby Planet* music app allowed her to extend self-directed exploration by engaging with hand-drawn characters illustrating well-known lullabies. The video demonstrates the five steps to skill generalization implemented by Sally's music therapist.



Conclusion

Music apps are one of many options that can support learning and development of young children with disabilities. However, digital tools cannot replace human relationships, attend to each child's unique abilities and needs, or provide personal interactive and physical play. Still, embedding technology and interactive media into music therapy sessions offers an essential aspect of early learning in today's digital age.

Music therapists need to continue increasing their digital fluency and coach families in using digital media in effective, appropriate and intentional ways. Promoting young children's digital wellness as well as positive media ecology in therapeutic settings and at home is part of a music therapist's responsibility.

References

- Donohue, C. (Ed.) (2015). *Technology and digital media in the early years: Tools for teaching and learning*. New York, NY: Routledge.
- Kern, P. (2013a). Resources within reason: Technology applications to support your work, Part 3. *Young Exceptional Children*, 16(3), 39-40.
- Kern, P. (2013b). Apps Starter Kit für Musiktherapeuten. [Apps starter kit for music therapists]. *Musiktherapeutische Umschau*, 34(4), 370-376.
- Kern, P. (2011). Cool music apps for little ones. *Imagine* 2(1), 91.
- Knight, A. (2013). Use of iPad applications in music therapy. *Music Therapy Perspectives* 31(2), 189-196.
- More, C. M., & Travers, J. C. (2013). What's app with that? Selecting educational apps for young children with disabilities. *Young Exceptional Children*, 16(2), 15-32.
- NAEYC/Fred Rogers Center (2012). Technology and interactive media tools in early childhood programs serving children from birth through age 8: A joint position statement of the National Association for the Education of Young Children and the Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College. Washington, DC: Author.



About the Authors



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about the use of technology and interactive media in therapy since the iPad became a household tool.

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