THE ROLE OF TECHNOLOGY AND INTERACTIVE MEDIA IN THE EDUCATION AND DEVELOPMENT OF PRESCHOOL-AGE CHILDREN

Statement of Intent:

The intent of this document is to provide information to families and early childhood educators on the use of technology and interactive media in the education and development of preschool-aged children. The US Department of Education states, "The thoughtful use of technology by parents and early educators can engage children in key skills such as play, self-expression, and computational thinking which will support later success across all academic disciplines and help maintain young children's natural curiosity."[1] To accomplish this, the Division of Early Learning has reviewed contemporary research through the lens of developmentally appropriate practice to provide insight into how families and educators might effectively support preschoolers to meaningfully engage with, and benefit from, technology and interactive media. Interactive media refers to the active use of different types of technology, for example, when children use tablets or computers with apps to engage in purposeful and meaningful learning or storytelling. Children may use interactive media to video chat with friends or loved ones, create music, tell a story or document an activity with photos

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[1] US Department of Education, Office of Technology. (2016, October). *Guiding principles for use of technology with early learners*. https://tech.ed.gov/earlylearning/principles/

and drawings. These types of experiences with interactive media can result in deeply meaningful opportunities for growth and development.

It should be noted that extensive position statements, literature reviews, expert guidance, and research-based recommendations regarding the subject matter are readily available from a number of organizations and publications (e.g., American Academy of Pediatrics, 2016; Erikson Institute, 2016; National Association for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media, 2012 & 2017; United States Department of Education and United States Department of Health and Human Services, 2016; Zero to Three, 2014). The information provided in this resource is not meant to duplicate or replace these valuable resources, but rather to briefly summarize key findings that will serve to inform families and educators as they contemplate and plan for the role that technology and interactive media should play in the lives of their young learners.

Foundational Principles:

Reflective of the Division of Early Learning's commitment to best practices in the field of early childhood development and education, this resource was established with the following research-based principles in mind:

- The thoughtful and properly informed use of technology and interactive media is an effective tool to support learning and relationships in the preschool classroom (NAEYC & Fred Rogers Center for Early Learning and Children's Media, 2012).

- It is essential that technology and interactive media be introduced and utilized within the context of developmentally appropriate practice (NAEYC & Fred Rogers Center for Early Learning and Children's Media, 2012).

- Technology and interactive media should be used to expand learning and discovery opportunities for all children (U.S. Department of Education, & U.S. Department of Health and Human Services, 2016).

- The use of technology and interactive media with young children is most effective when adults act as viewing partners and provide thoughtful interaction throughout the experience (Zero to Three, 2014).

- Technology and interactive media can be used to support and enhance relationships between families, educators, communities, and young children (U.S. Department of Education, & U.S. Department of Health and Human Services, 2016).

- Early childhood educators should have access to ongoing, high-quality professional development opportunities and resources regarding the use of technology and interactive media with young learners (American Academy of Pediatrics Council on Communication and Media, 2016; NAEYC, 2017).

Introduction:

Today's preschoolers are growing up in a digital world, surrounded by technology and the use of interactive media. A recent survey revealed that 85 percent of parents allow their young children (under age 6) to use technology. A majority reported using technology with their children daily (Erikson Institute, 2016). Experts stress that the

effective use of high-quality technology and interactive media with young children depends greatly on how they are used. When using technology with young children, it is essential that knowledgeable adults model beneficial behaviors and encourage young children to engage with these tools wisely and appropriately.

This resource provides recommendations in the following areas:

- Best practices and considerations for use of technology with preschool-aged children,
- Support for families regarding choosing tools and modeling appropriate use of technology and interactive media and,
- Strategies and suggestions for early childhood educators to benefit from, and provide opportunities for young learners to effectively engage with, technology and interactive media in the classroom.

Technology and Children:

Technology's ever growing role in society makes it necessary for families and educators to reflect on ways in which it can be used to support preschool-aged children. Proper use of developmentally appropriate technology and interactive media can enhance conventional methods and materials in powerful ways. However, adults must view it as one of many tools available to support young learners.

Technology should never take the place of hands-on, multi-sensory experiences. Young children are concrete thinkers and social learners. They benefit most by interacting with materials, their environment and others. It is critical that technology be used to augment these valuable interactions and discoveries rather than replace them.

For this reason, the American Academy of Pediatrics stresses that critical thinking skills and executive functions are best acquired through unstructured play and quality interactions with responsive adults (AAP, 2016).

When integrating technology into the preschool classroom it is recommended that the media be both interactive and open-ended. Young learners require opportunities to investigate technology and interactive media in fun and innovative ways (NAEYC, 2012). Like a majority of activities, the use of technology is most effective when teachers directly engage with children and scaffold the learning experience. Encounters with media should foster creativity, social interaction and problem solving (Epstein, 2015). Technology tools that connect on-screen and real life activities and emphasize meaningful interactions between children, their peers, and adults, have the potential to enhance young children's learning (NAEYC, 2012).

Technology and Families:

Technology has become a central component in our contemporary culture and it is used at home, in the workplace, and even socially. Research suggests that parental media use is a strong predictor of children's future media behaviors. Additionally, frequent use of mobile devices is linked to fewer interactions between parents and children. It is essential that families provide both balance and moderation when using technology and interactive media with, and around, young children. The American Academy of Pediatrics (2016) has established guidelines for parents regarding

appropriate use of media. They suggest creating a *Family Media Use Plan*[2] to establish goals and objectives that reflect individual values and beliefs. It is recommended that the plan establish unplugged spaces and times. Young children benefit from strong media role models and limited screen time. Technology should never take the place of hands-on activities, unstructured play, and social interactions, which are all strongly correlated to the development of cognitive, language and social skills.

When making media decisions, parents are advised to consider the child, content, and context (Barr, McClure, & Parlakian, 2018). The child's age, interests, abilities, emerging skills and attention span are important factors when choosing appropriate technology and interactive media. Content should be meaningful, relevant to real life, interactive, and engaging. There is no evidence that applications emphasizing rote academic skills are effective for young learners (American Academy of Pediatrics, 2016). Finally, the context of the media experience is important to consider. Preschool-aged children benefit most when an adult is available to share the media experience with them. They may discuss what the child is learning, answer questions, and assist in making real-world connections. There are a number of resources designed to support families in choosing high quality media content for young children (see resources).

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[2] *How to make a family media use plan.* (Updated 2020, November 30). HealthyChildren.org.
https://www.healthychildren.org/English/family-life/Media/Pages/How-to-Make-a-Family-Media-Use-Plan.aspx

Technology and Early Childhood Professionals:

To use technology and interactive media properly and purposefully, early childhood educators must receive on-going, high-quality professional development opportunities regarding their use with young learners (American Academy of Pediatrics Council on Communication and Media, 2016; NAEYC, 2017). It is essential to provide early childhood educators with information and resources to assist with the effective and developmentally appropriate implementation of these tools. According to the Office of Planning, Research, & Evaluation, "effective professional development products/programs use a variety of video technologies to communicate with practitioners, model behavior, and critique practice (Hernandez, Estrera, Markovitz, Muyskens, Bartley, Bollman, Kelly, & Silberglitt, 2015, p.1)." Additionally, they maintain that administrators play a significant role in either promoting or hindering the use of technology and interactive media in the classroom. Teachers look to administrators to provide the resources and support necessary to meet the needs of both students and the program as a whole.

The use of technology and interactive media may support and enhance relationships and communication between families, educators, communities, and young children (U.S. Department of Education & U.S. Department of Health and Human Services, 2016). Families may be informed of their child's progress and classroom activities through the use of digital portfolios and newsletters. Teachers may also use these tools to track progress, individualize lesson plans, record data and effectively improve child outcomes. While there is little doubt that technology and interactive media are powerful tools that can enrich early childhood education, it is essential to note that

they must be used with intention in a developmentally appropriate manner. They should serve to enhance, but not replace, the essential practices that help children grow and develop into successful learners, critical thinkers, and caring citizens. There can be no substitute for creative play, outdoor exploration, physical activity, social interactions, and conversation that promotes the growth and development of Florida's youngest learners.

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