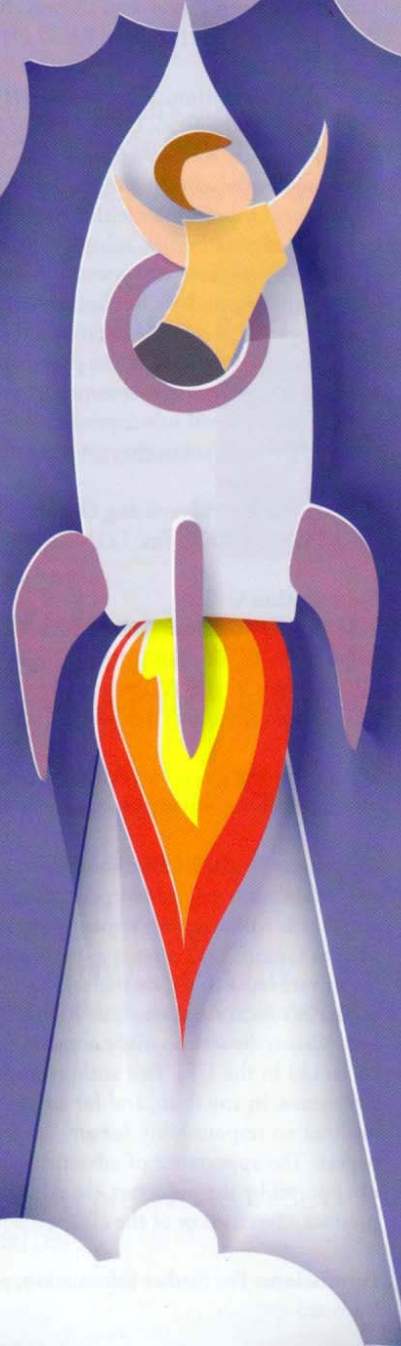




Childhood Education

INNOVATIONS

July/August 2019



Playful learning landscapes

Personalized learning
about migration

Creative problem-solving

Inquiry-based teaching

The new learning economy

Emerging ECD networks in
sub-Saharan Africa

Online professional
development

Choosing apps for preschoolers

Meditation in education
systems

CONTENTS

July/August 2019
Volume 95, Number 4



3

Playful Learning Landscapes: Creating skill-building experiences in community spaces

Molly A. Schlesinger and Kathy Hirsh-Pasek

16

Transforming the Classroom for Personalized Learning: Building blocks for engagement to learn about migration

Ellen Heyting and Rachael Thrash



24

Developing Skills Through Creative Problem-Solving

Arianna Lambert



30

"You Explore, I Guide, We Learn": Developing an inquiry-based teaching curriculum

Zora M. Wolfe



38

The Promise of the New Learning Economy

Jason Gush and Jackson Smith



41

Emerging ECD Networks in Sub-Saharan Africa: More is better

Patrick Makokoro



Contents • July/August 2019



47

Reimagining Early Childhood Educator Professional Development: An online community shares literacy learning strategies

Emily Brown Hoffman



56

Choosing the Right App for Preschoolers: Challenges and solutions

Mari Riojas-Cortez, Allegra Montemayor, and Tinney Leveridge



63

Making Meditation Compulsory in Education Systems

Arjun Limbu

Also Explored in This Issue:

UNICEF's Child Friendly Cities Initiative

Global Cities Education Network

Helsinki International Schools

KidsRights Index

Challenging Stereotypes in the Early Years

Mindfulness and Holistic Education in Finland

Global Citizenship

Innovation to Improve Early Childhood Care and Education



Our Cover Image:

Education innovators are motivated by the desire to transform education to provide more opportunities for students to soar to the heights of their potential. We want to support these efforts, and so share in these pages the work of individuals and organizations that can inspire further innovation around the globe.

Contents • July/August 2019



47

Reimagining Early Childhood Educator Professional Development: An online community shares literacy learning strategies

Emily Brown Hoffman



56

Choosing the Right App for Preschoolers: Challenges and solutions

Mari Riojas-Cortez, Allegra Montemayor, and Tinney Leveridge



63

Making Meditation Compulsory in Education Systems

Arjun Limbu

Also Explored in This Issue:

UNICEF's Child Friendly Cities Initiative

Global Cities Education Network

Helsinki International Schools

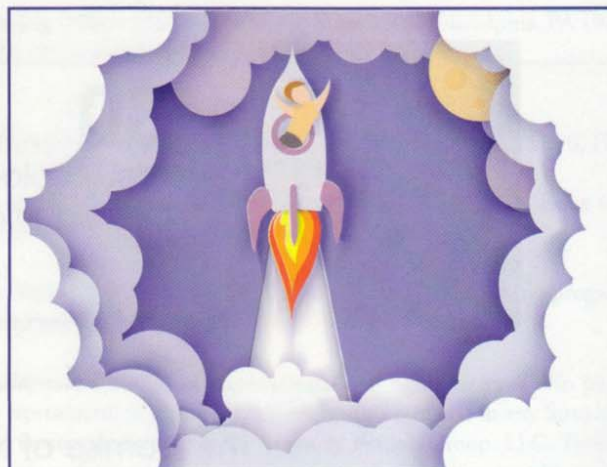
KidsRights Index

Challenging Stereotypes in the Early Years

Mindfulness and Holistic Education in Finland

Global Citizenship

Innovation to Improve Early Childhood Care and Education



Our Cover Image:


Education innovators are motivated by the desire to transform education to provide more opportunities for students to soar to the heights of their potential. We want to support these efforts, and so share in these pages the work of individuals and organizations that can inspire further innovation around the globe.



Playful Learning Landscapes

Creating skill-building experiences
in community spaces

Molly A. Schlesinger and Kathy Hirsh-Pasek
Temple University



Transforming the Classroom for Personalized Learning

Building blocks for engagement to
learn about migration



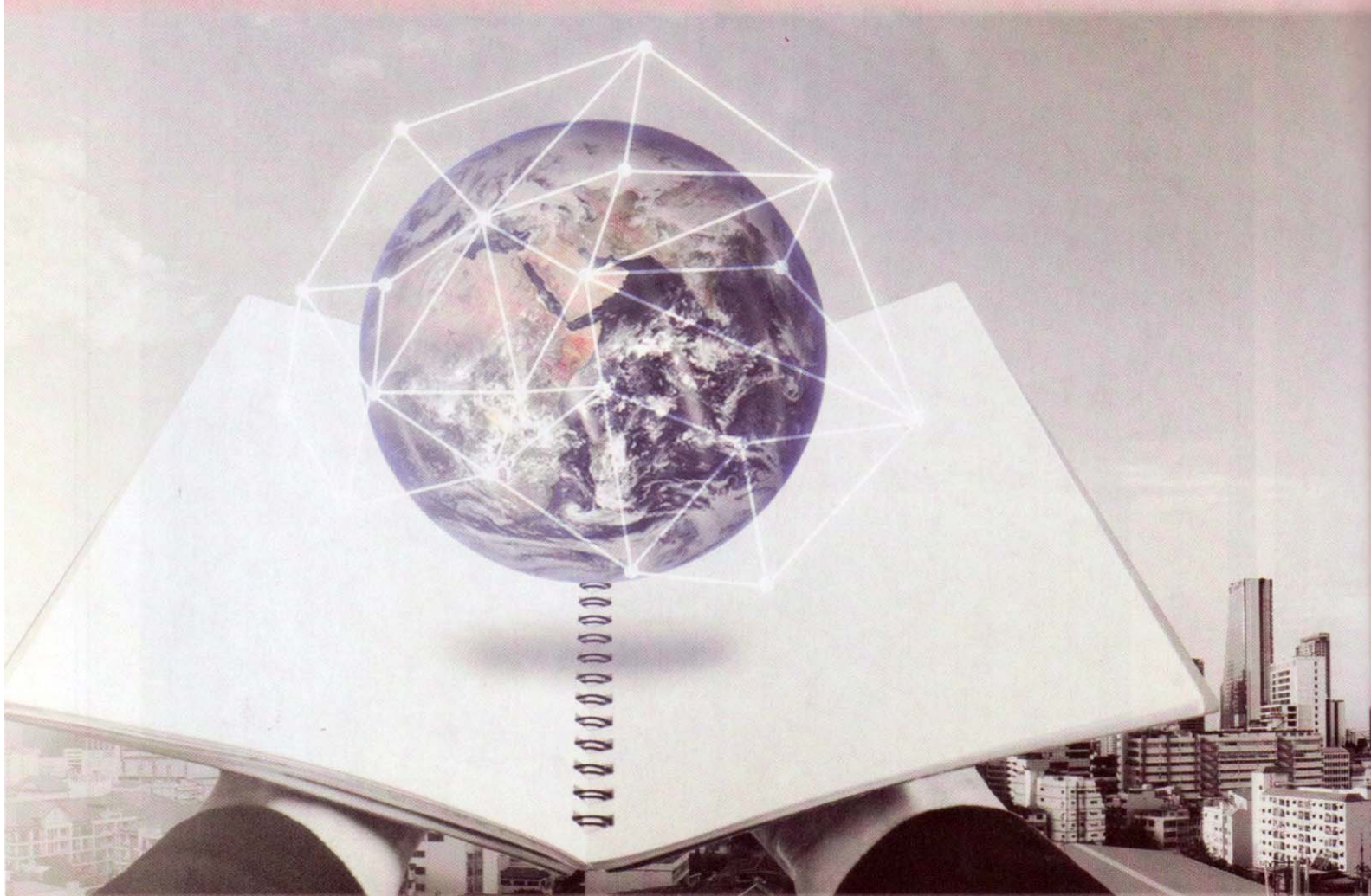
Developing Skills Through Creative Problem-Solving

“You Explore, I Guide, We Learn!”

Developing an inquiry-based
teaching curriculum



The Promise of the New Learning Economy



Innovations that are transforming society at large can be important vehicles for change in the education sector as well. What advances does blockchain technology offer to the learners of today and tomorrow?

Jason Gush and Jacksón Smith
Learning Economy

Emerging ECD Networks in Sub-Saharan Africa

More is better

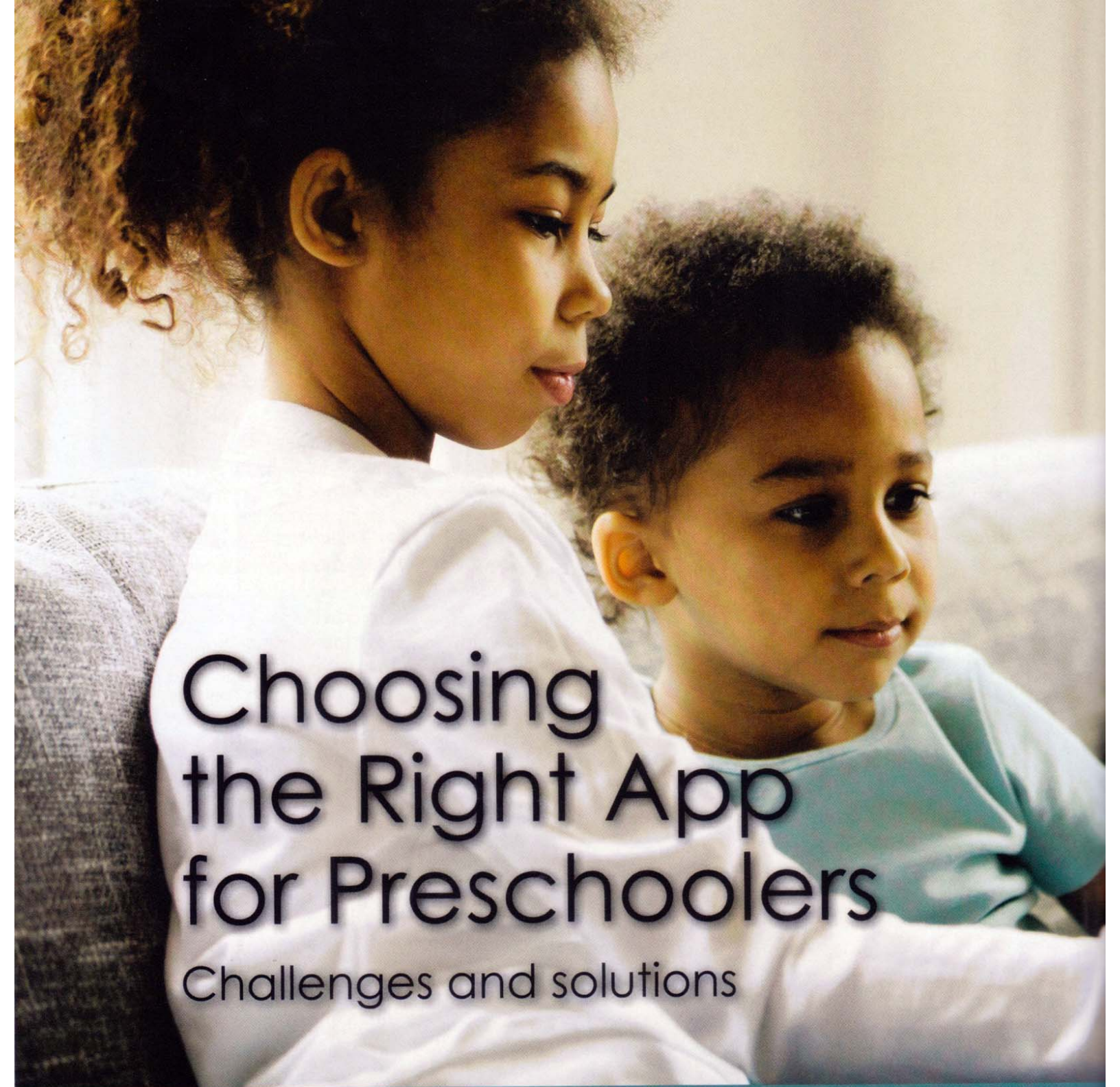




Reimagining Early Childhood Educator Professional Development

An online community shares
literacy learning strategies

Emily Brown Hoffman
Ball State University



Choosing the Right App for Preschoolers

Challenges and solutions

As early childhood educators employ technology in their classrooms, it is important to have a process to ensure that learning needs are being met.



Mari Riojas-Cortez, Allegra Montemayor, and
Tinney Leveridge
The University of Texas at San Antonio

Recognizing the increased use of technology with young children and issues associated with it, we sought to find out how preschool apps could promote play within a safe environment. Using technology in early childhood settings continues to present challenges, particularly in terms of its impact on children's imagination and creativity skills. Because technology is everywhere in today's society, it is not realistic to keep children away from computers and mobile devices. Therefore, early childhood educators need to be informed about the latest technology available in order to determine if it is safe and promotes play. From an educational standpoint, it is vital for educators to have the skills to bridge play-based learning with technology and make the learning meaningful.

Looking for novel ways to motivate young children and enhance their learning, we sought apps that would help children explore problem solving and engage in collaborative play that stimulated conversation and promoted learning. Developmentally appropriate guidelines are important when using technology in the early childhood classroom. Appropriate software allows young children to explore the technology while using their imaginations. Also, teachers can use technology to record what they observe in the classroom.

Studies show that technology can have a positive impact on children's learning. For example, young African American children showed improvement in their academic achievement with the frequent use of software. In addition, several digital media products do have potential for improving children's knowledge and skills for thinking, observing, planning, reading, mathematics, problem-solving, hypothesis formation and testing, language, collaborative learning, and creativity. However, many popular commercially produced digital media offerings have not been studied or tested.

La Clase Mágica Preescolar/ The Magic Preschool Class

In an effort to explore the use of digital tablets

with young children, we developed a plan to observe the interaction of children with iPads. With the help of two small grants from local organizations, we bought 25 iPads and developed La Clase Mágica Preescolar (LCMP).

Through LCMP, preschoolers and teacher candidates interacted through the use of iPads. The idea behind LCMP was to provide technology resources to children of diverse and low socio-economic backgrounds. Amigos/Friends Head Start Center (pseudonym), located on the southeast side of a large urban area in Central Texas, was asked to participate in this project. A total of 25 university students who were enrolled in a play course at a Hispanic-serving institution worked individually with 25 preschoolers (African American and Latinos) using the iPads provided to them by the research team. The majority of the students who participated were English-speakers; approximately 25% were dual language learners. All of the special needs children in the center, most of whom were on the autism spectrum, participated in the project.

In this article, we focus on selection of the apps, which had to be accomplished before the actual project could begin. The selection of apps proved to be one of the most crucial aspects of the study, since we needed to make sure that our selection met the children's learning needs.

In order to ensure that the apps were developmentally appropriate, we conducted a content analysis. We were able to analyze the apps using the Texas Prekindergarten Guidelines content, which was important since the director of the Amigos/Friends Head Start Center wanted to make sure content from the apps aligned with the Texas Prekindergarten Guidelines (see www.tea.state.tx.us/index2.aspx?id=2147495508).

The following sections describe five important steps in the selection of developmentally appropriate apps.

The First Step: Where Do I Start?

We knew that the content was specific to the state standards, so we needed to examine the domains carefully before delving into finding apps. As we examined the standards for content, we realized that having a document with very specific skills would help us in choosing the apps for our program.

The Texas Prekindergarten Guidelines divide into 10 skill domains: 1) social and emotional development, 2) language and communication, 3) emergent literacy reading, 4) emergent literacy writing, 5) mathematics, 6) science, 7) social studies, 8) fine arts, 9) physical development, and 10) technology. The guidelines are inclusive to dual language learners and children with disabilities. This was important for us in order to be inclusive of different populations who were participating in our project.

The two domains that the center director wanted us to focus on were mathematics and science, indicating that we could begin our program as long as the apps covered some of the skills in those domains. Table 1 shows the general skills for each domain. Specific skills within each domain are listed on the Texas Prekindergarten Guidelines.

Math	Science
Counting	Physical
Adding/Taking Away	Life Science
Geometry and Spatial Sense	Earth and Space Science
Measurement	Personal Safety and Health
Classification and Patterns	

Table 1. Math and Science Skill Domains



Studies show that technology can have a positive impact on children's learning.

The Second Step: Finding Free Apps

The second step was to decide the type of apps to select. Since we had spent all of the grant money purchasing the iPads, we could not afford to buy any apps. In addition, we were worried that even if we found the money to purchase the apps at this stage, we would not have additional funds to purchase them in the future.

At first, the search for apps was overwhelming; it is no wonder that teachers often find technology to be cumbersome, time consuming, and expensive. As we examined the free apps, we found some common themes that helped us narrow down our choices: farm, ocean, colors, numbers, and letters. We chose the farm and the ocean as themes, in order to narrow our selection further.

The Third Step: How Do I Select the Apps?

Within each skill domain, specific developmental objectives included in the Texas Prekindergarten Guidelines helped us decide if the content of the app was appropriate for preschoolers. Some of the developmental

objectives for math included identification of objects, counting, and recognition of numbers. For science, some of the objectives included description and characteristics of common objects, characteristics of organisms, and life cycles of organisms. As we began our analysis, we selected the general skill domain and then the developmental objective. For example, for math, we chose counting and we examined the apps that allowed the child to count and identify numbers. For geometry, we found apps that allowed children to identify shapes. Apps that had matching or sorting games were particularly interesting, as they offered different levels of difficulty and used sounds to indicate when the children had performed satisfactorily. For the science skill domain, we selected the developmental objective of describing characteristics of common organisms. We found apps that focused on the characteristics of organisms, such as the sounds animals make and the life cycle of organisms.

Even though the focus of the program had to be math and science, we believed the children needed a variety of apps that targeted different developmental objectives. Additional apps that we downloaded focused on emergent

Apps researched and selected to match the Texas Prekindergarten Guidelines.

LCMP	LCMP2
Ana Lomba's Spanish for Kids: The Red Hen	Aquarium Era Lite
Draw Free for iPad	EduCards Spanish 1000 Most Frequently Used Words Free
Farm Animals Puzzle Free	Farm Flip -> Memory Match for Kids
Farm Match	Farm Jigsaw Puzzles 123 Free for iPad
Flower Garden Free	Free Kids Counting Game
iTouchiLearn Numbers for Preschool Kids Free	Motion Math: Hungry Fish
MeeGenius! Kids' Books - The Read-Along Educational App	Penguins Pairs for Kids - Free Matching Game
Monkey 123	Puzzles 'N Coloring - Sea Life / LITE
Peekaboo HD	SeaWorld: Ruckus Reader
Pocket Dolphin Racing	Wild Dolphins

Apps used in the program.

App	Description	Children's Preference
Farm Animals Puzzle Free	Simple illustrations with only one or two animals in the barn. Children slide the correct pieces to form the animal. Several choices.	Because of its simplicity, most children would work on this game first but would lose interest as they learned to play more complex games.
Farm Match	Six to eight cards of farm animals that need to be matched. Children draw a line to match the correct one.	Children found this app to be simple and soon wanted to move to something more challenging.
Flower Garden	Children select activity to do, such as plant seeds or water plants.	Children would try the app, as they liked planting seeds and watching them grow. They also liked to water the plants.
Peekaboo HD	Children identify the farm animal behind the door. Children tap on a door and an animal comes out.	Younger children seemed to enjoy this game, which resembled Peekaboo. Older children would select and quickly move on.
Farm Flip - Memory Match for Kids	Eight to 12 cards of farm animals that need to be matched. Children tap on one and then on another one to see if their selection matched.	Children enjoyed this game, as they found it challenging. A few children would play it together to see who would match the most.
Farm Jigsaw Puzzles 123 Free for iPad	Classic jigsaw. Children move the pieces with their fingers.	Children enjoyed trying to fit the puzzle into the correct place.
Draw Free for iPad	Children enjoy free drawing using their fingers with different color palettes.	Free drawing was a favorite, as the children were free to draw and color anything they wanted very fast.

literacy, language, and fine arts (e.g., Draw Free for iPad app and MeeGenius – Read Along Library of Children’s Books).

The Fourth Step: How Many Apps?

In order to make the program manageable, we decided not to download more than eight apps. We created a folder labeled LCMP and allowed the children to choose the app they preferred. Keeping the number of apps to a minimum allowed the children to practice different skills within each of the domains without being overwhelmed. We knew that once the children had mastered these first apps, we could offer more choices. It is also very important to upgrade the apps when needed to ensure they continue to function properly.

The Fifth Step: Evaluation

Although a content analysis of the apps indicated the apps covered the skill domains from the Texas Prekindergarten Guidelines, we needed to evaluate how the children used them and if they liked them. We knew that children need to enjoy using the apps in order for benefit from them by practicing the skills and meeting objectives. After we collected the data, we made a list of the “most popular” and “least “popular” apps based on feedback from our university students, who were working with the children one-on-one.

We found that the children really liked interactive apps involving music, puzzles, and matching. They also enjoyed the drawing app. If they did not like the app, they would close it and find the one they enjoyed the most. As the garden app was the least popular, we knew



we needed to find another app that would target the developmental objective of learning about the life cycle of organisms. For dual language learners, we realized that the story app had to be also in Spanish so that they could understand the story and truly enjoy it.

When we found a story app in Spanish and the children tried it, it was a success.

Overall, our university students’ feedback and our observations indicate that the preschoolers in the project enjoyed the apps. However, rubrics to evaluate the effectiveness of the iPad apps would be useful. In order to assess the effectiveness of an application, a rubric can explore the following domains: 1) curriculum connections, 2) feedback, 3) differentiation, 4) authenticity, 5) motivation, 6) user friendliness, and 7) student performance.

Conclusion

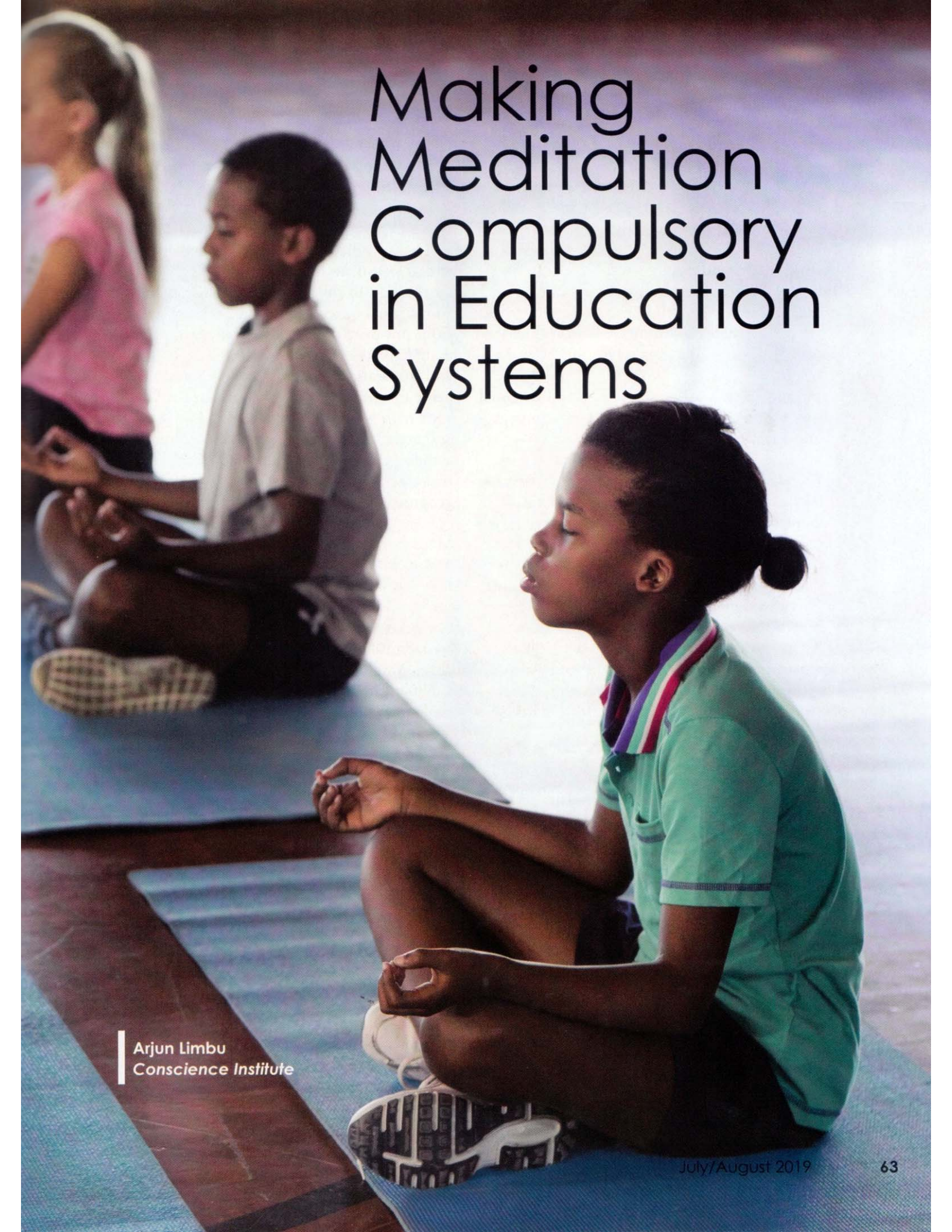
Mobile technology is being used more and more in classroom settings serving students with and without disabilities. Yet there is still hesitation from teachers about using technology in a play-based environment. If teachers understand how to select technology that supports and enhances children’s learning and, more importantly, understand how technology can facilitate play, they will be better prepared for its use in the classroom. As technology continues to evolve, it will have an impact on children’s development. The four-step process outlined here helps teachers select apps that are relevant to the curriculum they are teaching, appropriate, safe, and allow children to play.

Additional Reading

Are Educational Preschool Apps Designed to Teach? An analysis of the app market

By Melissa N. Callaghan & Stephanie M. Reich

In Learning, Media and Technology, Volume 43(3)

A photograph of three children in school uniforms sitting on blue mats on a wooden floor, practicing meditation. They are in a lotus position with their hands in a mudra. The child in the foreground is a girl with her hair in a bun, wearing a green polo shirt. Behind her is a boy in a white polo shirt, and further back is a girl in a pink shirt. The background is a bright, slightly blurred wall.

Making Meditation Compulsory in Education Systems

Arjun Limbu
Conscience Institute