

**Noggin's  
Learning Approach:**

**Putting  
Playful  
Learning First**



Published by Noggin

# Acknowledgement

We would like to thank everyone who contributed to the research and development of this paper, including: Lasette Canady, Ji Cho, Stephanie Hare, Kevin Miklasz, Sabrina Silverstein, Bo-Young Lee and Jackie Glassman.

Published by Noggin© 2023. To contact us about this paper, email [kiersten.zimmerman@nick.com](mailto:kiersten.zimmerman@nick.com).

Suggested citation for this paper:

Zimmerman, K. 2023. Noggin's Educational Promise: Putting Playful Learning First.

Published on [www.noggin.com/impact/](http://www.noggin.com/impact/).

## Preface

Play is how children learn and investigate the world around them. Early childhood experts have long championed the role of play in helping children develop the cognitive, social and emotional, and physical skills they need to thrive. Meaningful play can serve the whole child, supporting the development of a confident and creative mindset. Researchers emphasize the learning impact of various types of play—social, critical thinking, constructive, fantasy—and now digital play.

Play in digital environments is an important extension of play in physical environments, offering many of the same opportunities and benefits. Research reveals that children in the United States increasingly prefer digital play to other types and that digital play with an intentional purpose can serve as a key resource in learning essential skills and building knowledge.

The media landscape for digital play is vast, providing children with endless choices. Because young children are spending on average three hours daily engaging in digital play, responsible creators must be deft in blending fun experiences with learning goals and effective pedagogical strategies. Many parents and caregivers are looking to educational media companies to be partners that can help children prepare for school and life.

Noggin is an early learning platform that reflects the potential of digital play and embraces serious educational readiness goals. Using digital play to offer delightful learning experiences, Noggin meets children where they are and allows them to discover their interests through meaningful stories and diverse characters. As a children’s media organization, Noggin is committed to developing effective and engaging curriculum-based offerings. To fulfill this mission, Noggin must satisfy the interests of its audience of preschoolers while offering busy parents evidence that time spent on Noggin is time well spent.

In ongoing efforts to provide meaningful learning experiences for children, Noggin prioritizes building a world-class curriculum developed with the support and guidance of a research team. Child development and learning experts formulate clear educational goals and researchers track engagement value and the impact of our digital content every visit. Top disciplinary experts help assess if the content engages children in play with purpose while supporting learning of key concepts and skills.

This paper, authored by Kiersten Zimmerman, Senior Director of Learning Design and Impact, details Noggin’s approach to teaching children through digital media. The results of this approach are promising. For more information on the impact of Noggin’s work on children’s readiness for school and lifelong learning, we have created a companion paper on Noggin’s impact research process: *“Growing Kids’ Noggins: Implementing a Learning Impact Evidence Framework in a Multimedia Children’s Platform”*

We welcome feedback from parents, caregivers, and educators to help improve Noggin. We are committed to providing high quality learning experiences for all children.

Kristen Kane, Executive Vice President, and Michael Levine, Senior Vice President, Learning and Impact, Noggin

# Introduction to Noggin: A Playful Learning Platform That Delights and Educates

Noggin is Nickelodeon's personalized, interactive learning platform for young children - developed by education experts and starring children's favorite characters. Children learn important skills to prepare for school and life while they play with Noggin - engaging with an ever-expanding library of books, learning games, interactive activities, music videos, and original series, plus ad-free episodes of popular series, like *Paw Patrol*, *Peppa Pig*, *Dora the Explorer*, and *Blue's Clues & You!*

Noggin's learning promise is to build the foundation for growth in essential skills and knowledge during the critical early childhood years when brain development is primed for lifelong learning. Impacting growth is central to this promise, with an emphasis on progress over performance, and encouraging a growth mindset through both instructional design and family engagement opportunities.

## Noggin promotes children's growth through four core principles that shape the learning platform:

- 1 **Aligning to standards and applying evidence-based best practices**
- 2 **Connecting learning approaches**
- 3 **Prioritizing playful learning**
- 4 **Nurturing the power of parasocial relationships**

### 1 **Promoting Growth by Aligning to Standards and Applying Evidence-Based Best Practices**

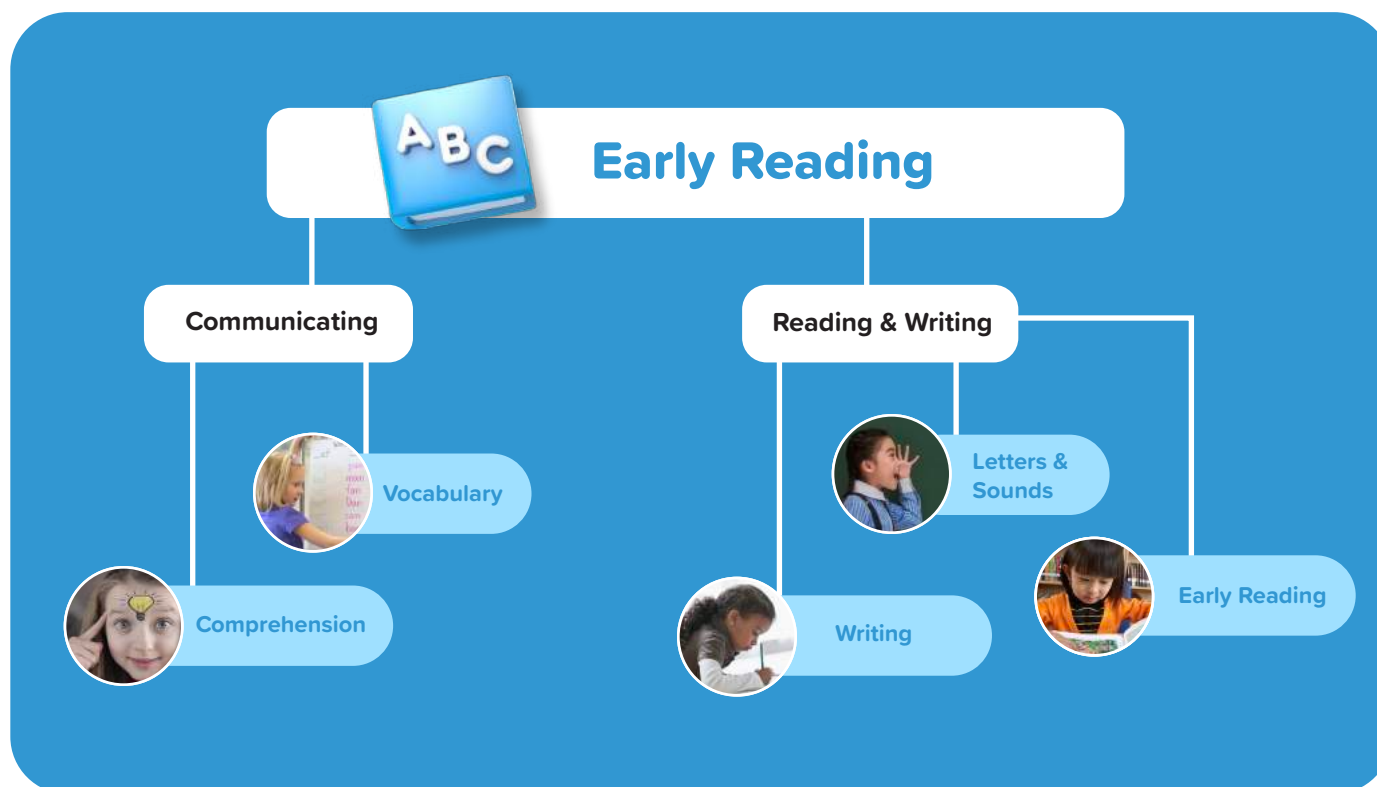
#### **Noggin Learning Framework**

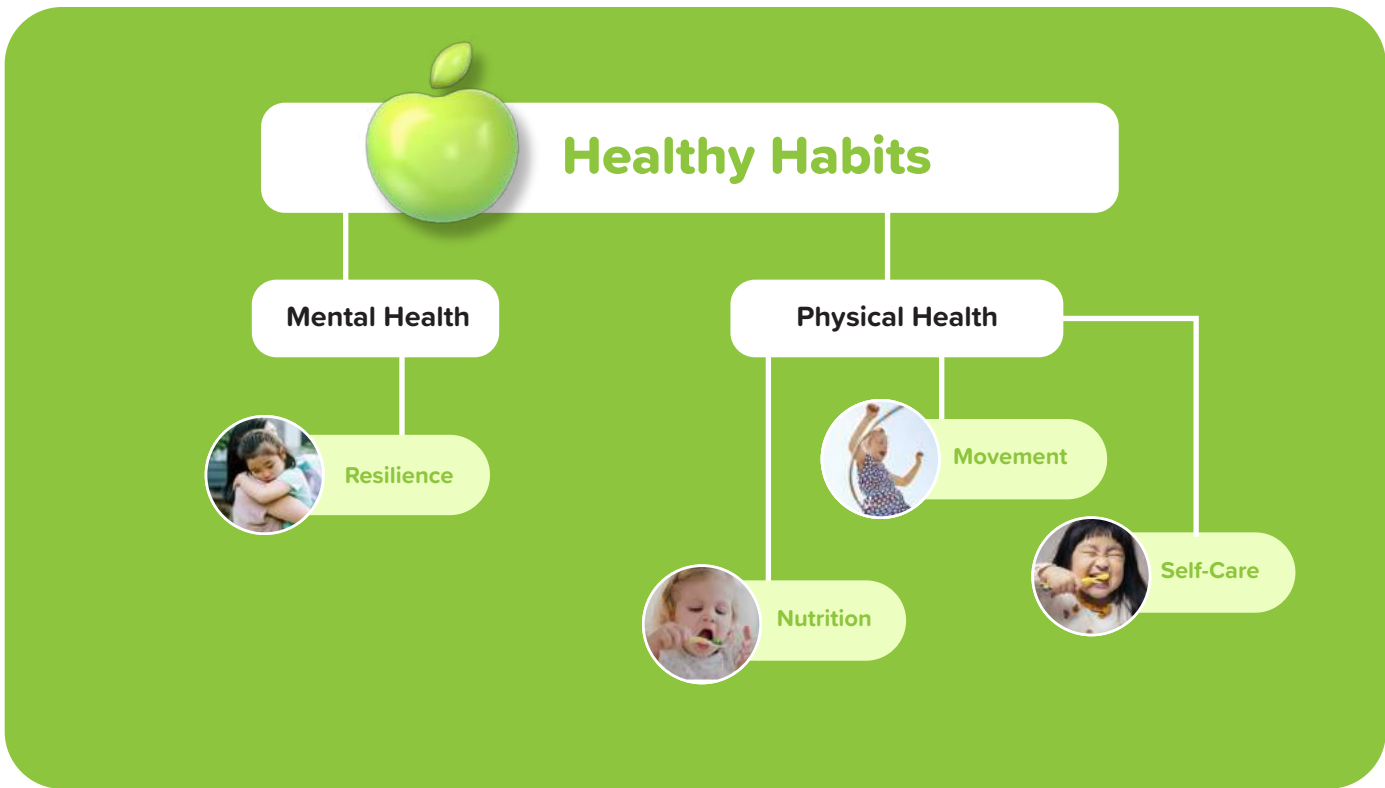
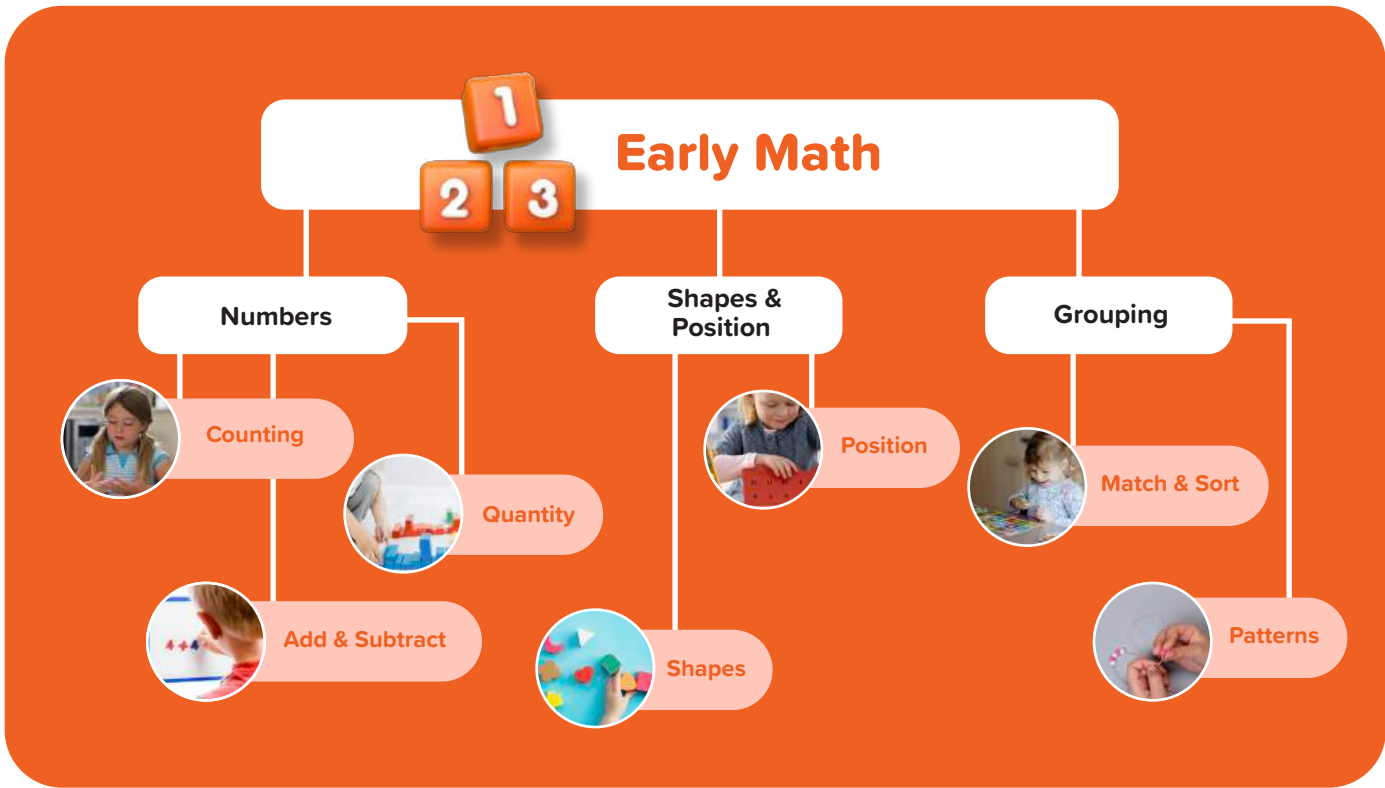
The Noggin Learning Framework is a comprehensive, developmentally appropriate, research-based, and standards-aligned framework of early learning. It addresses all areas of child development and aligns with established education standards, including ones developed by the following:

- **National Head Start Association**
- **National Association for the Education of Young Children**
- **National Council of Teachers of Mathematics**
- **National Research Council of the National Academies**
- **Collaborative for Academic, Social, and Emotional Learning**
- **CORE Knowledge Foundation**

## Five Learning Areas

The Framework is organized into five learning areas, each with related skill sets, skills, or topics, allowing for content to be delivered cohesively and with cumulative review. The following figures outline the skills and topics in each area: social and emotional, math, literacy, health, and arts & sciences.







## Skills + Knowledge = Deeper Learning

Noggin differentiates itself with a learning approach that combines foundational skills with knowledge domains to drive deeper learning. Foundational skill development is necessary for learning how to learn, for developing a love of learning, and for future academic success. Similarly, knowledge development is necessary for children to grow into curious, compassionate, and critical thinkers who comprehend the world around them and make connections between related concepts and ideas. Providing children with opportunities for both foundational skill and knowledge development is core to Noggin’s learning promise and to healthy child development.

## Ages & Stages Progression

Noggin’s Learning Framework is intentionally designed to grow with the individual child during their early years. Math, literacy, and social and emotional skills are organized into a research-based scope and sequence developed with leading subject-matter experts and reflective of how children develop prerequisite and progressively advancing skills. Each skill set and the corresponding skills within it follow a growth trajectory that includes developmental age and stage expectations for three-, four-, and five-year-olds. The following is an example of ages & stages for a math skill.

### Ages & Stages: Copies and Extends Repeating and Growing Patterns

- **Age 3:** Child can begin to recognize, copy, and extend simple ABAB patterns.
- **Age 4:** Child can identify, copy and extend simple repeating patterns (ABAB, ABB, AABB, ABC, ABCD, etc.) using different elements like objects, sounds and movements. Child can recognize simple growing patterns (e.g., towers increasing by 1).
- **Age 5:** Child can complete the missing elements in simple repeating patterns. Child can identify the unit of repetition in a simple pattern. Child can extend growing patterns (e.g., identifying the next tower when increasing the size by 2).

## Five Learning Programs

For the child and family experience, the learning framework is organized into five learning programs, each focused on a specific area. Learning programs are rooted in the following principles:

- Foundational skills to grow and enriching topics to learn
- Research-based approaches for teaching skills and topics
- Engaging content that delivers learning through play
- Leveled support to enable delivery of just-right content to each child

Following are the primary learning objectives and example content for each learning program.

### ♥ Social & Emotional

Helping kids build confidence in themselves, gain an appreciation of others, and develop healthy relationships.



Tales from the Playground:  
Marisol's Playground Problems



Feeling Faces: Deema

### ABC Early Reading

Helping kids develop the foundational skills they need to communicate, listen, read, and write.



Word Play: Meteor



Meet the Alpha Beats

### 1 2 3 Early Math

Helping kids make sense of their world through mathematical thinking and problem-solving.



Blue's Clues & You:  
Time to Play Store



Perfect Pair



 **Healthy Habits**

Helping kids strengthen their physical and mental well-being, develop resilience, and make healthy choices.



Yoga Friends



Ready, Set, Race

 **Arts & Sciences**

Helping kids explore the wonders of their world and become curious, critical and compassionate thinkers.



Noggin Knows



Bubble Guppies:  
Dive Into The Met!

 **Noggin Teaching Model**

Across learning areas, the programs follow a consistent teaching model for developing both skills and knowledge. Every original Noggin series or episode aligns to one step of the teaching model. Cohesive content sets organized by the same or related learning objectives encourage the progression from foundational understanding to independent application of skills.

 **Introduce**

Explaining skills with developmentally appropriate vocabulary and modeling



 **Practice**

Repeatedly practicing skills and concepts with scaffolded and leveled content



 **Apply**

Applying skills and concepts in multiple new contexts with real-world scenarios

## 2 Promoting Growth by Connecting Learning Approaches

Noggin recognizes the interconnected nature of learning, particularly in the early childhood years. By connecting learning approaches, consistent and intentional instructional elements are integrated throughout content. In particular, Noggin recognizes that children’s vocabulary, cognitive functioning, and sense of belonging can be strengthened through a wide variety of content and contexts.

### Vocabulary Approach

Noggin develops children’s vocabulary through the introduction and instruction of challenging words that are meaningful, relevant, and measurable. By teaching vocabulary through a content lens, Noggin leverages the engagement and narrative value of educational media to drive learning of three types of words:

**Power Words**



Complex and interesting words that are fun to learn, say, and think about

**Skill Words**



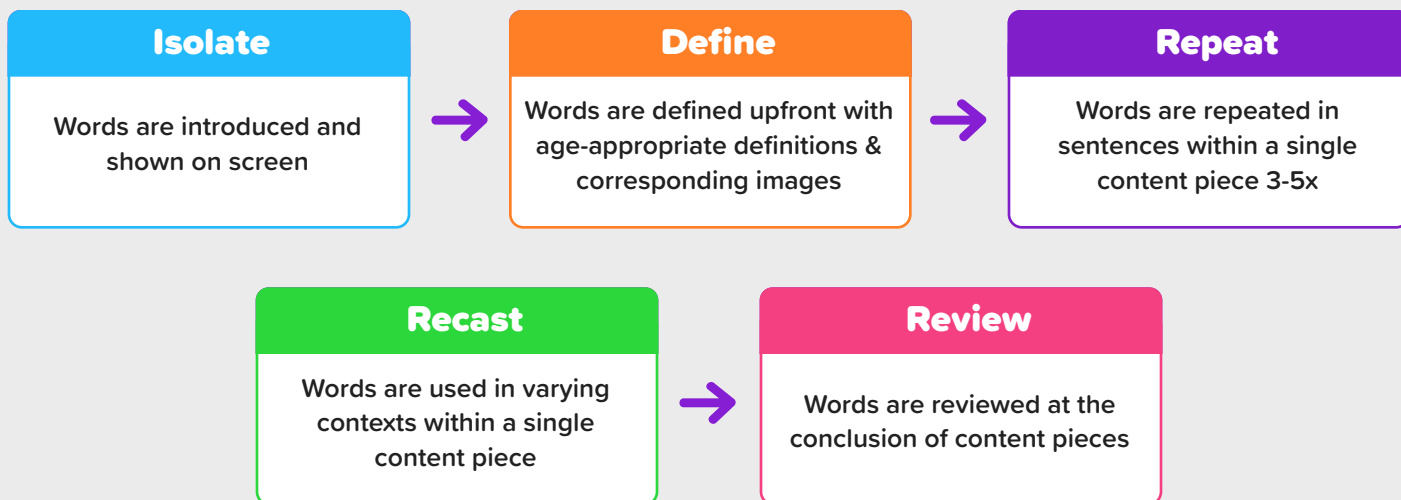
Vocabulary for understanding foundational math and literacy skills

**Adventure Words**



Words that are categorized to accelerate knowledge, inferential thinking, and retention

Additionally, a research-based **Vocabulary Teaching Model** is consistently employed in the teaching of new words:





## Insights from Lead Advisor: Dr. Susan Neuman, Professor of Childhood Education and Literacy Development at New York University

Dr. Neuman's seminal research finds that young children—including those who are under-resourced—can learn sophisticated words and the inferential skills needed for growing their vocabulary. This is particularly important and hopeful given the recent decline in NAEP reading achievement post-COVID. Dr. Neuman's current research is demonstrating the positive impact of music and video as an avenue for teaching challenging but achievable vocabulary.

### Read more:

- [Two May Be Better Than One: Promoting Incidental Word Learning Through Multiple Media](#)
- [How Vocabulary Interventions Affect Young Children At Risk: A Meta-Analytic Review](#)
- [Quick, Incidental Word Learning In Educational Media: All Contexts Are Not Equal](#)

## Executive Function Approach

To develop and strengthen executive function (EF) skills, Noggin integrates cognitive flexibility, working memory, and inhibitory control within and across content in all learning areas in the following ways:

- **Instructional Design**  
Activities that provide opportunities to think flexibly, recall details, actively use new information, and practice patience and self-regulation
- **Narrative**  
Scripting that prompts multiple self-reflection moments
- **Feedback**  
Scaffolding that encourages children to think again and try again

**Example: Cognitive Flexibility in Social and Emotional Content**

- **Identify** more than one way to solve a social problem fairly (e.g., Two characters want to use the same toy. What can they do? What else can they do?)
- **Demonstrate** how two people might perceive or react to the same situation differently
- **Think** of multiple ways to be helpful in a given situation
- **Play** games where children imagine themselves in different & changing roles



“You can understand how others feel.”

“Let’s try a different way.”





## Insights from Lead Advisor: Dr. Stephanie Carlson, Professor at the Institute of Child Development, University of Minnesota and Co-Founder of Reflection Sciences, Inc.

Dr. Carlson's research findings highlight three core executive function principles Noggin applies in its programming: 1) executive function skills are taught, practiced, and developed over time; 2) cognitive flexibility, working memory, and inhibitory control are interrelated and work together to further learning; 3) executive function skills are seamlessly integrated into all learning areas, including math, literacy, and social and emotional development.

### Read more:

- [The "Batman Effect": Improving Perseverance in Young Children](#)
- [Mindfulness Plus Reflection Training: Effects on Executive Function in Early Childhood](#)
- [Associations between Executive Function and Early Math and Literacy Skills in Preschool Children](#)

## Diversity, Representation, and Inclusion Approach

Noggin strives to reflect the diversity of the children and communities it serves. At Noggin, our approach to Diversity, Representation, and Inclusion (DRI) is defined as:

- **Diversity**  
Understanding and valuing differences, including race, ethnicity, gender, ability, and socioeconomic status
- **Representation**  
Authentically reflecting the diverse realities of children and families through storytelling
- **Inclusion**  
Creating an internal and public-facing presence that emphasizes belonging for every child and family

Noggin’s unique approach to Diversity, Representation, and Inclusion is centered around three essential questions that guide content development from initial ideating through delivery:

1. Will the content help children learn and thrive?
2. Will the content help children feel that they belong?
3. Will the content align with Noggin’s commitment to engaging new and diverse audiences?



By asking and answering these questions during the early stages of content development, Noggin aims for every child to see themselves reflected in the characters and stories through which they learn.



**Insights from Lead Advisor: Dr. Allison Briscoe-Smith, Child Clinical Psychologist and Senior Fellow at the Greater Good Science Center, University of California, Berkeley**

Dr. Briscoe-Smith’s expertise informed Noggin’s process for addressing Diversity, Representation, and Inclusion principles in content development. Noggin emphasizes belonging—acknowledging that children’s media presents a promising opportunity to reduce and counter the biases we are

**Read more:**


- [Diversity in Children’s Media Provides Representation and Fosters Compassion](#)
- [Why Representation Matters in Kids’ Media](#)
- [The Inclusion Imperative: Why Media Representation Matters for Kids’ Ethnic-Racial Development.](#)

### 3 Promoting Growth by Prioritizing Playful Learning

Noggin takes a research-to-practice approach to its development of educational content, incorporating established best practices in the science of early learning to form the foundations for playful learning.

#### Playful Learning:

Learning through intentional digital play experiences

What Research Says	What Noggin Does
<ul style="list-style-type: none"> <li>● Play (both digital and physical) contributes to children’s development and refinement of social, observation, organization, and classification skills. Considering these skills is essential to the design of products intended to teach, rather than solely entertain.<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Supports</b> digital play through a wide variety of skill-driven games, linear and interactive content, and open-play dollhouse experiences</li> <li>● <b>Provides</b> opportunities that build cognitive skills, increase engagement, and strengthen social interactions with peers and adults</li> </ul> <p>★ <b>Noggin Highlight:</b></p> <ul style="list-style-type: none"> <li>● <i>Missions: Early Math + Early Reading</i></li> <li>● <i>School of YUM + Snacks with Spats</i></li> <li>● <i>Finding Friendship with Liddo and DD</i></li> </ul>
<ul style="list-style-type: none"> <li>● The best digital play environments include elements of <b>structure</b> (i.e., the pattern of play) and <b>drive</b> (i.e., the motivation to play and learn) by imagining, building, interacting, and creating.<sup>2</sup></li> </ul> 	<ul style="list-style-type: none"> <li>● <b>Features</b> traditional and innovative play patterns found in the instructional design of linear and interactive content, including: <ul style="list-style-type: none"> <li>○ <b>Problem-solving play</b> ★ <b>Noggin Highlight:</b> <i>Tales from the Playground: Kale and Race to the Slide</i></li> <li>○ <b>Imaginative play</b> ★ <b>Noggin Highlight:</b> <i>Blue’s Clues and You! Time for School</i></li> <li>○ <b>Creative play</b> ★ <b>Noggin Highlight:</b> <i>Friends: Create + Color</i></li> <li>○ <b>Social play</b> ★ <b>Noggin Highlight:</b> <i>Friendship Card Maker</i></li> <li>○ <b>Physical play</b> ★ <b>Noggin Highlight:</b> <i>PAW Patrol: Dino Rescue Adventure</i></li> </ul> </li> </ul>

<sup>1</sup> Schlichting, M. (2019). *Understanding Kids, Play, and Interactive Design: How to Create Games Children Love*. CRC Press.  
Hirsh-Pasek, K., Golinkoff, R.M, Berk, L.E. & Singer, D. (2009). *A Mandate for Playful Learning in Preschool: Presenting the Evidence*. Oxford University Press.

<sup>2</sup> <https://www.understood.org/en/articles/personalized-learning-what-you-need-to-know>

## Playful Learning (continued):

Learning through intentional digital play experiences

### What Research Says

### What Noggin Does

- Play that is self-directed, with minimal or no instruction, also encourages exploration and discovery - which, in turn, enhances time and engagement within learning activities.<sup>3</sup>



- **Builds** intrinsic motivation with a variety of methods:
  - Immediate and consistent feedback
  - Celebratory moments with engaging visuals and sounds
  - Relevant and actionable rewards recognizing persistence and completion
  - Communication of growth to families with the goal of driving recognition and co-engagement

- **Offers** exploratory, open-ended environments with embedded and organic learning opportunities:
  - Dollhouse games with math, literacy, social and emotional learning, and knowledge-building interactions
    - ★ **Noggin Highlight:** *Blue's Clues and You! Time to Play: Store*
  - Maker-space activities for art, music, and creative self-expression
    - ★ **Noggin Highlight:** *Art Lab and Music Lab*
  - Immersive play spaces for applying skills and knowledge in contextually relevant ways

- Meaningful play creates space for making mistakes and learning from them.<sup>4</sup>



- **Encourages** children to try, make mistakes, reflect, learn, and try again through instructional design features
  - ★ **Noggin Highlight:** *On the Job Series*
- **Reinforces** active learning through scaffolding with supportive voice-over and corresponding visuals in interactive

#### 💡 **Noggin 3-Step Scaffolding Approach:**

- 1 Encouragement to think and try again
- 2 Reminder to use relevant cognitive strategies
- 3 Hints or give-away of correct response

- **Inspires** replay with both linear and interactive content to ensure deeper learning and retention

<sup>3</sup> Goldstein, J. (2013). Technology and Play. Scholarpedia, 8(2): 30434.

<sup>4</sup> Hoicka, E., Butcher, J., Malla, F., and Harris, P.L. (2017). Humor and preschoolers' trust: Sensitivity to changing intentions. Journal of Experimental Child Psychology, 154(1): 113-130.



## 4 Promoting Growth by Nurturing the Power of Parasocial Relationships

Noggin recognizes the powerful impact that relationships of all kinds have on children’s growth and development. Whether learning alongside beloved characters or engaging with parents and caregivers, the opportunity for prosocial modeling, oral language development, supportive and constructive feedback, and enhanced motivation can positively impact learning.

### Parasocial Relationships:

The connection children feel to the characters they love and learn with

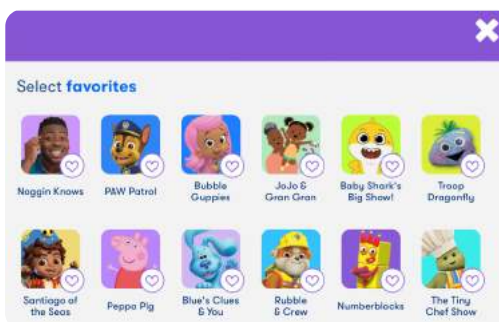
#### What Research Says

- The three pillars underpinning parasocial relationships in children’s media include:
  - 1 Character personification
  - 2 Attachment
  - 3 Social Realism<sup>5</sup>



#### What Noggin Does

- **Leverages** in its content well-known and beloved Nickelodeon characters whom children are naturally inclined to seek for comfort, security, and friendship



- **Recognizes** that children perceive Noggin characters, including those who are not human, as human-like, with needs and feelings similar to their own
- **Enhances** the learning value of parasocial relationships through the use of characters and environments that are representative of the real world

★ **Noggin Highlight:**



Dora's home and family members



Bubble Guppies classroom



Peppa Pig's outdoor play environment

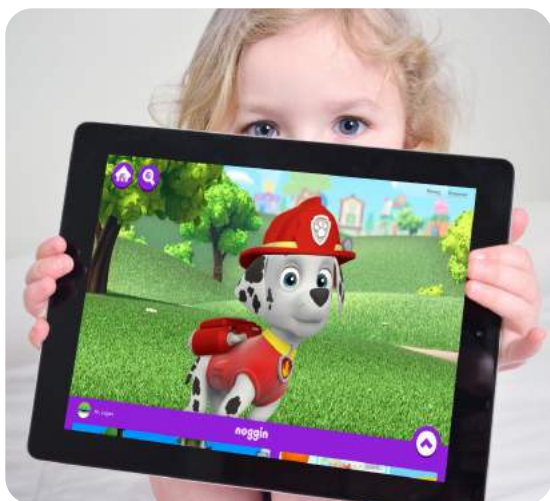
<sup>5</sup> Bond, B.J., & Calvert, S.L. (2014). A model and measure of US parents' perceptions of young children's parasocial relationships. *Journal of Children and Media*, 8(3): 286-304.

## Parasocial Relationships (continued):

The connection children feel to the characters they love and learn with

### What Research Says

- As children engage with characters who make deliberate eye contact and ask them questions to help problem-solve in a simulated environment, they begin to establish a meaningful connection with the character who facilitates their learning.<sup>6</sup>
- Through repeated viewing and interactions, children start to feel familiarity and friendship from characters, which can be the crux to aiding children’s early development and practice of comprehension, problem-solving, and social and emotional skills.<sup>7</sup>



### What Noggin Does

- **Applies** actionable insights gained from children’s engagement with media characters in the following ways:
  - Creating diverse characters with detailed backstories to help make children feel seen and comfortable, including the original Big Heart Kids



- Using characters whom children can perceive as friends to model prosocial skills and behavior
- Considering social realism in content narratives and settings

★ **Noggin Highlight:** *On the Job: Ice Cream Maker; On the Job: Sanitation Worker*

- **Leveraging** characters in multiple media formats (e.g., linear, interactive, web, eBook, and offline family extensions) to build familiarity
- **Encouraging** parent or caretaker participation, such as dialogic reading prompts embedded in eBooks
- **Designing** content that encourages children to verbally respond to the screen and engage in “conversations” with characters

★ **Noggin Highlight:** *Noggin Knows Series*

<sup>6</sup> Bond, B.J., & Calvert, S.L. (2014). A model and measure of US parents' perceptions of young children's parasocial relationships. *Journal of Children and Media*, 8(3): 286-304.

<https://www.scholarsandstorytellers.com/blog-main/how-to-write-characters-who-connect-parasocial-relationships>

<sup>7</sup> Calvert, S. and Richards, M. (2014). “Children’s Parasocial Relationships.” In A.B. Jordan A.B. and D. Romer Media and the Well-Being of Children and Adolescents (187-201). New York: Oxford University Press.

<https://www.psychologytoday.com/ca/blog/screen-time/201909/screen-time-friends>  
Sharpe, 2019

# Noggin Looks Ahead

Noggin continues to evolve as an early learning platform, fostering individual child growth and family engagement by integrating personalized and interest-driven learning, as well as emphasizing the parent-child relationship.

## Personalized Learning

Personalized and customized playful learning helps children feel a sense of ownership and active participation, which in turn encourages engagement and retention.<sup>8</sup> Noggin aims to personalize learning by meeting every child where they are and challenging them to grow. From onboarding onward, the individual child’s Noggin experience is uniquely tailored to their interests and needs. Noggin will continue to apply research-based elements of personalized learning through developing the following:

- **Learner profiles**  
Information that reflects the child’s strengths, needs, interests, and preferences.<sup>9</sup>
- **Personalized learning pathways**  
Individualized learning with targeted instruction that responds or adapts to the child’s needs and goes at their own pace.<sup>10</sup>
- **Flexible learning environments**  
Digital play spaces regularly adapting to how children learn and evolving with their progress.<sup>11</sup>



<sup>8</sup> Kucirkova, N. (2019). Children’s reading with digital books: the past moving quickly to the future. *Child Development Perspectives*, 13: 208–214.  
Schlichting, M. (2019). *Understanding Kids, Play, and Interactive Design: How to Create Games Children Love*. CRC Press.

<sup>9</sup> Huggins, E.S., Kellogg, S. (2020). Technology-enabled personalized learning: A promising practice in need of robust research. *School Science and Mathematics*, 120(1): 1-4.

<sup>10</sup> Schlichting, M. (2019). *Understanding Kids, Play, and Interactive Design: How to Create Games Children Love*. CRC Press.

<sup>11</sup> Huggins, E. S., Kellogg, S. (2020). Technology-enabled personalized learning: A promising practice in need of robust research. *School Science and Mathematics*, 120(1): 1-4.

## Interest-Driven Learning

Interest-driven learning reflects children’s ideas and preferences as a means of growth. Leveraging their interests as a foundation for engagement fosters deeper understanding, enjoyment, and motivation to learn.<sup>12</sup> Interest-driven learning has the potential to transform teaching and learning<sup>13</sup> in the following ways:

- **Changing the role of the learner**

Children have the power to make choices as to when, what, and how they will learn, along with self-monitoring their progress

- **Changing the role of knowledge**

Children have the opportunity to act upon the knowledge they are gaining as they immerse themselves in self-selected activities

As Noggin evolves, children’s voice and choice will impact their individual learning journey through expressing personal interests, exploring and designing immersive play spaces, and engaging in creative self-expression. Noggin’s innovative approach to knowledge will continue to empower children by introducing complex topics to spark curiosity and interest, followed by opportunities to discover and apply the answers to big questions about the world around them.

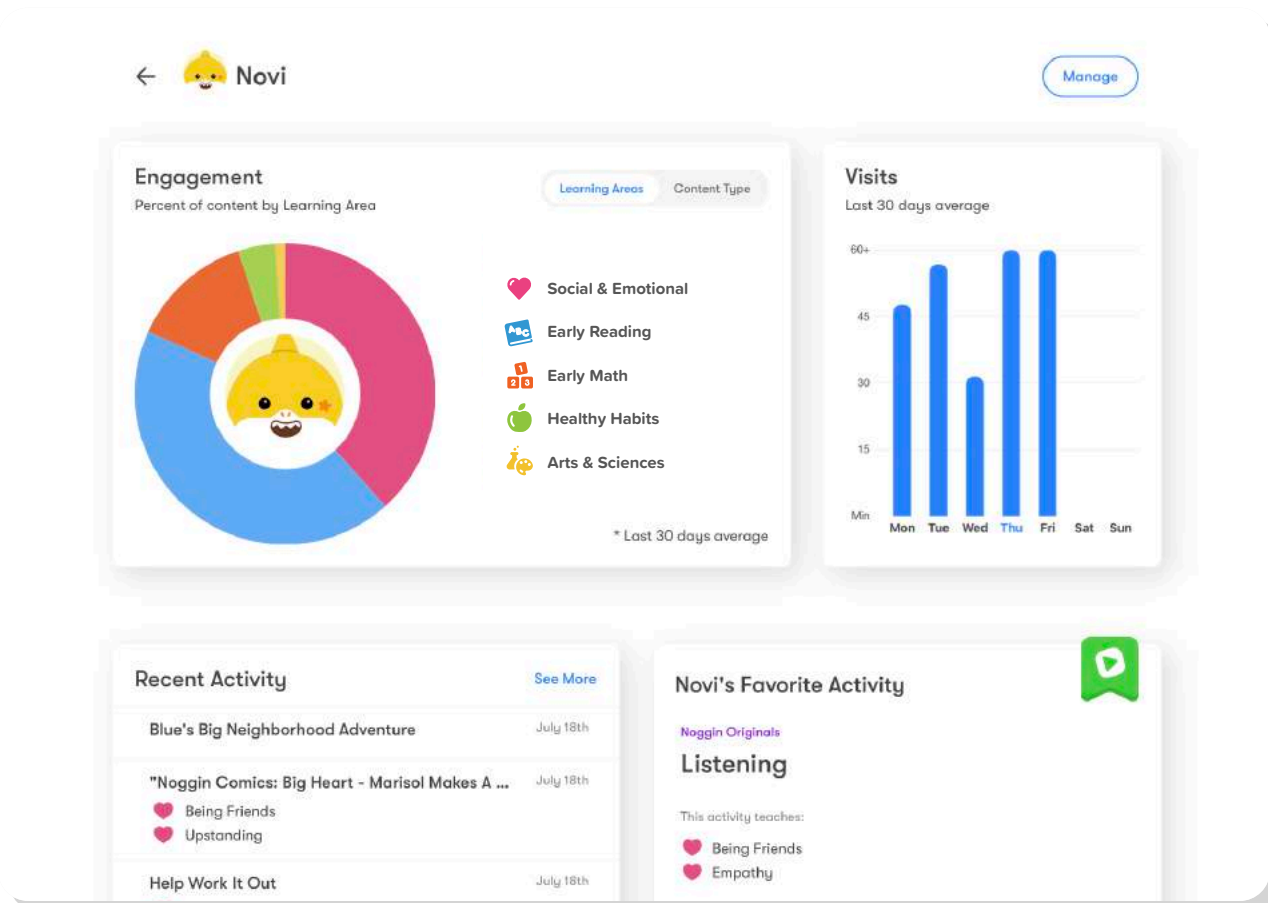


<sup>12</sup> <http://www.hanen.org/helpful-info/articles/what-makes-your-child-tick-.aspx>

<sup>13</sup> <https://www.ascd.org/el/articles/a-blueprint-for-interest-based-learning>

## Family Engagement

Noggin aims to bring families joy and support, while empowering parents and caregivers to develop their knowledge as their child’s first teacher. Content experiences for the child will be extended to encourage memorable and impactful shared experiences for the family. By demystifying the science of early learning and providing engaging and actionable content, Noggin will help parents and caregivers gain the confidence needed to help their child learn and grow. Parent dashboards to monitor child progress, “co-play” content to stimulate greater learning, a range of fun classes for families to enjoy together, and family activities to extend learning off the screen are some of Noggin's current family engagement priorities.



## Conclusion

Noggin is an early learning platform that enhances the growth mindset in everything it does, including content and product features, instructional design, and family supports. Developing children’s growth mindset creates a love of learning and a resilience that are essential as they grow and advance through school and beyond. Noggin merges young children’s innate curiosity and desire to explore and problem solve with research-based best practices, applying them to a platform that emphasizes progress over performance, ensuring that Noggin is paving the way for little learners to grow and thrive.