

PROMOTING CRITICAL THINKING IN EARLY CHILDHOOD:

INQUIRING MINDS WANT TO KNOW



“As children, our imaginations are vibrant, and our hearts are open. . . . Everything amazes us, and we think anything is possible. We continuously experience life with a sense of newness and unbridled curiosity.”—Yehuda Berg.¹

From birth, young children are naturally curious. Their world is an exciting place, filled with new things to explore, and they are filled with wonder, discovery, and an innate yearning to understand the “whys” and “hows” of the way in which the world works. This process of discovery and making sense of the world is known as *inquiry*. “Inquiry is a dynamic process of being open to wonder and puzzles and coming to know and understand the world.”² It is a hands-on process in which children are involved in their learning, formulate questions, investigate, and then build new understandings, meanings, and knowl-

edge. Inquiry is a way of teaching that encourages children to learn by asking questions, exploring ideas, solving problems, and discovering how things work.³

Understanding the development of inquiry in young children provides the teacher with useful information needed to design the classroom environment, plan for instruction, and assess the impact of inquiry-based practices on the achievement of young children.

Gonya⁴ describes the Stages of Inquiry Development as shown in Table 1.

Research suggests that inquiry-based teaching and learning promote increased creativity and enhanced ability to solve problems. As a result, young children are more actively engaged in their learning, improve their

language skills, and develop more positive social interactions. In addition, inquiry helps children to create “habits of mind.”⁵ Often, inquiry-based learning skills are “retaught” to children as scientific methodology when they are older. However, if teachers understood how children naturally and intrinsically learn, they will be less prone to suppress the curiosity and sense of wonder in children, and will be in a better position to build upon and expand these naturally embedded skills into those of inquiry-based learning. If we, as educators, can harness the natural curiosity of children, we will help them develop critical thinking skills and facilitate inquiry while fueling their natural passion for learning.⁶

Classrooms where teachers emphasize inquiry-based learning have the following characteristics:⁷

- Inquiry occurs in the form of authentic,

B Y D A V E N I A J . L E A

Table 1. Stages of Inquiry Development and Age-based Examples*

Stages of Inquiry Development	Example
Infants investigate by observing.	Zoe sees the sunlight as it shines through the windows.
Toddlers investigate by observing and doing.	Elijah opens the shade, and sunlight shines through the windows. When he closes the shade, the room is dark.
Preschoolers investigate by observing, doing, and questioning.	Mariah stands in front of the window. "What shadows can I make?" she wonders. "Do all things make a shadow? Why isn't the shadow the same all the time?"
Elementary-age Students investigate by observing, doing, questioning, and discovering or seeking answers.	Grant wants to find out why and how the sun rises and sets in a pattern. He wants to know, "How does this affect shadows?" Grant looks for books in the library about the Sun.

*Jennifer Gonya, "Turning Curiosity Into Inquiry: An Early Childhood Best Practice" (Resources for Early Childhood: An Online Resource for Ohio Educators, 2007), p. 5: <http://rec.ohiorc.org/record/10316.aspx>. Accessed November 18, 2015.

real-life experiences within the child's natural environment.

- The learning environment is filled with materials that support inquiry.
- Inquiry capitalizes on student curiosity.
- Data and information are actively used, interpreted, refined, digested, and discussed.
- The inquiry connects to family and community.
- Inquiry is integrated across the curriculum.
- Teachers consistently model the behaviors and language of inquiry. Children are major participants in their learning.
- Teachers and children interact frequently and actively.
- Children are encouraged to communicate their curiosities.
- Teachers approach inquiry with enthusiasm and excitement.

Developing Inquiry Skills in Young Children

Although curiosity and exploratory play come naturally to children, inquiry does not. For one to grow into the other, teachers must intentionally support and guide children as they explore their environment. Teachers can encourage the inquiry process in varying ways such as building a foundation of inquiry and modeling the skills and language of inquiry.⁸ While there are several approaches to fostering inquiry-based teaching and learning, I will

focus on two essential practices: Play-based Learning and Creating the Environment.

Play-based Learning

The benefits of play have been recognized by the scientific community. Evidence indicates that "neural pathways in children's brains are influenced and advanced in their development through exploration, thinking skills, problem solving, and language expres-

sion that occur during play."⁹ Research also demonstrates that play-based learning leads to greater social, emotional, and academic success. Thus, experts recommend that play not be separated from learning. When children are engaged in purposeful play, they are discovering, creating, and expanding their learning.¹⁰ The teacher should take advantage of students' high interest and engagement in play by centering the curriculum, the lessons, and the activities on topics of interest, while also incorporating standards-based goals and objectives for children's learning into well-planned play experiences. The teacher should also be an active participant in the child's play. While children are engaged, the teacher should observe, support, and extend their play, make connections to the concepts being explored, and promote inquiry. In order to do this, the teacher could do the following:

- Create time in the daily schedule for discussion and reflection on shared and individual child experiences;
- Engage in "teacher talk," intentionally seeking opportunities to verbally state ideas, questions, and findings. (See Table 2.) Everything teachers say can influence what children learn. Intentional, purposeful conversations support children's overall development. Teachers should intentionally orient their classroom talk to encourage their students' engagement in a particular activity, to extend their vocabulary, and to promote their social and emotional development.¹¹

Table 2. Teacher Talk Example¹²

- Explain your own thoughts as you approach an investigation. For example, in art class, say, "I wonder what would happen if I mixed the red paint with the yellow paint."
- Choose richer vocabulary. Instead of saying, "Let's make a picture of the ocean," you could say, "Let's make a mural about ocean creatures."
- Give clues about what words mean. "That block tower is gigantic! You can't even see over the top!"
- Encourage children to think of multiple solutions. "How else could we . . . ?"
- Make predictions. "What do you think will happen if . . . ?"
- Verbalize children's feelings. For example, you might say, "You look sad. Are you sad because we have to go inside?" Ask them to confirm or to identify terms that more accurately describe how they feel.
- Use completion prompts during reading. For example, you can start a familiar phrase, "I'll huff and I'll puff and . . .," then allow the children to complete the prompt.
- Use recall prompts, encouraging the children to recall previous events such as "Do you remember where we went yesterday?"
- Ask "Wh" questions—Who, What, When, Where, Why.

▪ Document students' experiences, observations, and conclusions in order to determine each child's progress in mastering vital skills, and to identify areas in which further skill development is required, as well as to determine ways to modify, enhance, or extend learning experiences.

Creating the Environment

Creating an inviting learning environment supports children's social, emotional, physical, intellectual, and spiritual growth and development. Welcoming surroundings enhance children's disposition toward learning and

give them a sense of belonging.¹³ Purposefully planned learning spaces also encourage children's curiosity as well as their sense of discovery, and prompt communication. Creating an environment that facilitates play, promotes engagement, encourages social interactions, and stimulates learning is critical to the development of inquiry.¹⁴ Creating engaging environments that promote learning is more than simple room arrangement. Learning environments include indoor and outdoor spaces, as well as materials and resources. Engaging environments encompass the values of play, large and small muscle activity,

creativity and performing, messy and sometimes loud play, opportunities to resolve conflict and activities that are hands-on.¹⁵ Indoor and outdoor spaces that promote and facilitate inquiry should include:

- welcoming spaces for children, families, and educators;
- transition spaces for moving indoors and outdoors;
- inclusion of children's perspectives in the design;
- areas to display children's projects and creations;
- adaptive design features to accommo-



date persons with disabilities;

- spaces for small, active groups;
- places that encourage interaction and relationship building;
- private, quiet spaces for talking, thinking, and planning;
- natural materials such as tree stumps, branches, plants, and water to enhance and define spaces;
- habitats for insects, birds, or other animals.¹⁶

Creating an engaging environment combined with a variety of learning experiences provides opportunities for children to practice formulating their own questions and seeking answers. For example, a simple walk outside can often spur a variety of questions, such as “How do ants build their home?” or “Why are flowers different colors?” Other experiences, like having a classroom pet, growing a class garden, or placing bird feeders outside the window, also offer opportunities for children to practice the process of inquiry. And practice is vital if children are to establish this inquiry “habit of mind.” Once they do, they will use it in a multitude of settings and throughout life.¹⁷

Conclusion

Implementing a process approach to inquiry often involves a transformation in the way in which we think about how children learn, how we deliver instruction, and in the way our schools are organized for teaching and learning.¹⁸ Challenges to inquiry-based practices include time for planning and collaboration, managing the classroom during less-structured activities, and understanding how to balance child-directed experiences with teacher-directed experiences.¹⁹ However, a commitment to the approach, a quest for more knowledge, and a better understanding of the process, as well as support from leadership, staff, and the families served, will aid in transforming the school culture and the classroom environment.²⁰

Curiosity is a natural part of young children's lives, and when nurtured and encouraged, it can grow into something even more meaningful. Early-childhood programs are where the journey from curiosity to inquiry begins. Ellen G. White stated that “Small children

should be left as free as lambs to run out-of-doors, to be free and happy, and should be allowed the most favorable opportunities to lay the foundation for sound constitutions.”²¹ She further advised, “let the little ones play in the open air; let them listen to the songs of the birds, and learn the love of God as expressed in His beautiful works.”²² The world is a natural learning environment, providing children with many opportunities for discovery about the world around them, the God who loves them, as well as mental, physical, social, and emotional growth. Fueling the curiosity of young children and then joining them in the inquiry process is the beginning step in developing a joy for learning, a desire to know more, and the ability to grow in knowledge, understanding, and wisdom. ☞

This article has been peer reviewed.



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