



**21st CENTURY LEARNING
FOR EARLY CHILDHOOD
GUIDE**



The time to begin preparing children for the challenges and demands of the future is when they are young. Children in the early years are curious and excited learners. It is our responsibility as parents, educators, policymakers, and administrators to create learning experiences and environments that tap into that natural curiosity and excitement. This includes not only supporting emerging skills in reading, math, science, and social studies, but also most importantly, the 21st century skills of critical thinking, collaboration, communication, creativity, technology literacy, and social-emotional development. Children need to begin to develop the early foundational skills that will help them reason, think creatively, analyze data, and work collaboratively in the future.

This guide, and the accompanying **21st Century Skills Early Learning Framework (P21 ELF)** (battelleforkids.org/networks/p21), is designed to support providers in after-school programs, children’s learning centers, family care homes, preschools, home support services, education programs in children’s museums, and public schools in creating environments and experiences for early learners based on how children learn and develop.

EARLY CHILDHOOD

Most organizations and educators define early childhood as infancy through kindergarten. We have focused on three age ranges within early childhood:

TODDLERS/EARLY PRESCHOOLERS

Ages 18 months through 3 years

PRESCHOOL/PRE-KINDERGARTEN

Ages 3 through 4 years

KINDERGARTEN

Ages 5 through 6 years

Because children learn skills at varying rates of development, there will always be an overlap between the age ranges.

This guide covers four key areas to support the integration of 21st century learning within early childhood experiences:



HOW CHILDREN LEARN 21ST CENTURY SKILLS



TEN STRATEGIES TO HELP CHILDREN BUILD 21ST CENTURY SKILLS



CREATING THE OPTIMAL 21ST CENTURY LEARNING ENVIRONMENT



IMPORTANCE OF FAMILY ENGAGEMENT



HOW CHILDREN LEARN 21ST CENTURY SKILLS

Neuroscientists, educators, and early childhood development experts agree that early experiences have a major impact on the development of the brain and learning as adults. The brain has the greatest plasticity, or is the most flexible, during infancy through age five to accommodate a wide range of experiences, interactions, and environments. For example, three year olds have twice as many brain “connections” as adults. A young child’s experiences with parents and other caring adults, along with social and physical environment, help to “prune” and “sculpt” these neural connections as they are used. The connections become more efficient building a solid foundation for all learning. Thus, the development of the young brain is cumulative layering of foundational skills influenced by relationships, experiences, and environments. This is why nurturing emerging social, emotional, cognitive, and language skills in the early years is critically important.

PLAYFUL LEARNING

Play is at the heart of how young children learn. Through play, children demonstrate what they are learning, what they are interested in, and what they are concerned about. They test out and practice actions to which they’ve been exposed. When we observe children at play, we begin to learn more about what they understand and can identify the skills that need more practice. This informs our efforts to guide them to the next level.

ADULT INTERACTIONS

Adults, children’s peers, older children, and siblings are important and integral in the playful learning process. Adults guide children and arrange environments to support the learning process. Through materials and interaction, adults can help children identify associations with, and make connections to, previously learned skills. This is often called *guided play*, a child-directed process wherein adults build on children’s interests and extend what they are doing in the moment to intentionally achieve additional learning goals. This authentic approach helps to make the learning “stick” because it is more meaningful and relevant to the child.

Adults can “teach” self-regulation, for example, by instructing children to stand quietly and not move. They could, however, stand longer and manage greater self-regulation by internalizing the purpose when pretending they are soldiers guarding a castle. This illustrates the potency of playful learning for building skills when children perceive it as fun and rewarding. It often pushes children to engage in activities more fully.

Educators in more formal learning settings, such as preschools and child care centers, play a significant role in expanding learning through the implementation of intentionally planned and developmentally appropriate curriculum. Such programs should be designed to be responsive not only to the children’s interests, but include learning objectives based on children’s skill levels and abilities. Structured activities involve daily schedules with predictable yet flexible routines. Children thrive in environments where stress is reduced through children’s understanding of expectations and what comes next. The schedule of learning activities within the curriculum should include all areas of development: physical, cognitive, social and emotional, language and literacy, and 21st century skills.

PEER INTERACTIONS

Peer interactions are another important context for learning. When engaged in peer play, children observe others and will imitate or build on what they observe. They gain social and emotional skills when they make efforts to create games and coordinate activities with each other. For example, children learn self-regulation when they develop and play rule-based games and they learn perspective when they negotiate the themes within dramatic play activities with others.

LEARNING EVERYWHERE

Playful learning occurs beyond the school or child-care setting. It occurs everywhere. It occurs when parents are running errands, when children play with others in a park, or in after-school settings. This type of learning is often described as informal learning. Children spend most of their time in informal versus in more formal settings. Taking advantage of these opportunities helps children make connections to the larger world. Children are inspired to learn because of the desire to know how to do something or engage with others. The reward is relevant and enjoyable since it is based on the children's realtime experiences.



TEN STRATEGIES TO HELP CHILDREN LEARN 21ST CENTURY SKILLS

These ten essential strategies help apply what we know about how children learn to support the delivery of optimal 21st century early learning experiences—in school and beyond.

CHILD-CENTERED

Look for opportunities to focus on children’s interests. If children watch and show interest in a plane flying over them, take the opportunity to explore flight, make paper planes, or soar around outside pretending to be planes. Children are more likely to engage in child-led activities and to concentrate on them through direct instruction.

WHOLE CHILD FOCUS

Provide opportunities to help children develop skills beyond early language, literacy, and mathematics. Offer feedback and encouragement on a regular basis to reinforce skill development in essential skills, social-emotional development, and to foster self-esteem.

PLAY-BASED

Encourage all types of play within the learning environment—dramatic, constructive, creative, physical, and cooperative play.

COOPERATIVE LEARNING

Provide opportunities for children to play and interact with each other (e.g. dramatic play, puppet play, rule-based games, etc.). Design activities where children have opportunities to solve problems and innovate together.

BLENDED APPROACH

Connect online play with hands-on play. Provide opportunities for children to explore and test skills online to create a more personalized experience allowing children to learn at their own pace. Learning is enhanced if the hands-on playful activities are connected to what is learned online.

FLEXIBLE ATTITUDE

Be willing to change the plan. If the children are excited about a game they are playing, but it is time to read a story in circle time, build on what they are doing, and ask them to talk about their game or find a story that connects to the game.

DIFFERENTIATED INSTRUCTION

Change it up. When guiding children, use different approaches and consider the learning styles of each child. Some children need to be more active while others may prefer a calmer pace. For example, in teaching children to count, have them sing out the numbers, provide materials they can count when playing, or include counting as part of a story you read to them. This approach offers multiple options for children to absorb information.

FORMATIVE ASSESSMENT

Observe children as they play. What skills have they developed and what are they just beginning to learn? Use this ongoing feedback to adjust activities and the learning environment to build on what they know and introduce new concepts and content.

CONSISTENCY

Create routines and expectations to help children feel secure, giving the confidence and freedom to explore the environment. Consistency also supports the development of executive function skills such as planning and organizing, and self-regulation.

COMBINE LEARNING DOMAINS

Offer learning experiences to help children develop the 4Cs—critical thinking, creativity, collaboration, and communication—while developing content knowledge. This intentional approach can be done while reading a story and discussing the characters or during a science experiment through the problem solving experience.



CREATING THE OPTIMAL 21ST CENTURY LEARNING ENVIRONMENT

In addition to the strategies, the environment, whether in informal or more formal settings, has a significant impact on the way children learn and develop. We know how much our environment affects our mood, motivation, and the ability to focus. It is the same for young children.

A developmentally appropriate and engaging environment is one that:

IS SAFE AND PREDICTABLE

Children thrive when they feel safe and know what to expect. Transitions should be smooth, easy, and stress-free.

NURTURES CHILDREN

Create a welcoming environment where children are encouraged and responded to support a strong self-image and positive interactions with others.

FOCUSES ON THE LEARNER

Display their work! Children's work and projects should be posted around the environment to inspire creativity and innovation. Commercial graphics and materials should be kept to a minimum.

PROVIDES A VARIETY OF MATERIALS

Provide access to a variety of developmentally appropriate materials in the space where they can use them independently.

OFFERS VARYING TYPES OF ACTIVITIES

Include a mix of activities based on children's interests in a variety of experiences such as whole group, small group, playing in pairs, or independent instruction to support problem solving, collaboration, and communication.

OFFERS DIVERSITY

Select materials and activities that reflect all cultures and families within the community to support children in becoming global citizens. They should also reflect all types of learners and children with disabilities.

INTEGRATES TECHNOLOGY

Build an environment where children learn to use technology that is age- and developmentally-appropriate, monitored, and contains educational and positive content to enhance creativity and information gathering.

ALLOWS FOR FREE MOVEMENT

Allow for children to move throughout a space and support them as they investigate their environment.



IMPORTANCE OF FAMILY ENGAGEMENT

When families, schools, and communities work together, children do better academically, behaviorally and socially. Family engagement is so important that it is part of the early learning standards for the National Head Start Association and in states such as Iowa, Kansas, North Carolina, and Pennsylvania. Policymakers should include family engagement for all early learning programs.

Early learning opportunities are improved when combined within comprehensive services focused on needs of the family. Families come in all forms and may include grandparents, guardians, foster parents, aunts or uncles, etc. Comprehensive services, such as those found within Head Start programs across the country, include health and wellness, mental health, nutrition, and access to other social services. When children's physical and emotional needs are being addressed, they are ready to function fully, explore their environment, and build 21st century skills.

It is imperative that families, educators, caregivers, and other community members work together to help children develop essential 21st century skills. Families are encouraged to communicate expectations with educators and ask questions not only about what their child is learning, but how he or she is engaging in the learning process.

Educators can engage families beyond the typical scheduled conferences and connect more frequently about a child's interests, provide suggestions for at-home activities, and share images of the child's work. They should seek family input and provide opportunities for parent education, support groups, and, if available, home visitation. Museums, community programs, clubs, and other more informal learning environments should thoughtfully and intentionally include parents and caregivers in their programs. These types of connections have a strong impact on children's success in and out of school.

Programs should be inclusive and respect the diversity within a community and the varying approaches and expectations for early childhood. Various strategies will help connect with families such as use of interpreters, cultural events, and bilingual materials.

A further impact that parents may have is to support opportunities for children's learning as they arise in the everyday routines of family life. Learning opportunities are everywhere! Parents, family members, and caregivers can engage children while at the grocery store, in the car, and when visiting the library. Visits to children's museums, parks, or a sporting event all provide opportunities for learning. Community programs and schools should provide families with supportive materials that offer them tips, ideas, and resources to extend their child's experiences.

RESOURCES

American Federation of Teachers (AFT)

www.aft.org/earlychildhood/resources/transitioning-kindergarten-toolkit-earlychildhood-educators

Association of Early Learning Leaders

www.earlylearningleaders.org

The Military Child Education Coalition (MCEC)

www.militarychild.org

National Association of the Education of Young Children (NAEYC)

www.naeyc.org

National Association for Family Child Care (NAFCC)

www.naffcc.org

National Child Care Information Center (NCCIC)

www.icf.com

National Education Association (NEA)

www.nea.org/home/18163.htm

National Head Start Association (NHSA)

www.nhsa.org

PBS Kids

www.pbskids.org/lab/education-resources

Strive for 5! (Too Small to Fail Foundation)

www.striveforfive.com

U.S. Department of Education – Office of Early Learning (DOE – OEL)

www2.ed.gov/about/inits/ed/earlylearning/index.html

Zero to Three

www.zerotothree.org

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ABOUT BATTELLE FOR KIDS

Battelle for Kids is a national not-for-profit organization committed to collaborating with school systems and communities to realize the power and promise of 21st century learning for every student, without exception.

Formed in 2001, the organization's leadership in 21st century education now encompasses early learning, during school (K-12), and beyond school experiences. The Partnership for 21st Century Learning (P21) joined Battelle for Kids in 2018. P21's members and partners have been pioneers of 21st century learning since 2002. EdLeader21, also a network of Battelle for Kids as of 2017, started its industry-leading network in 2010 and now has more than 220 member districts and schools across. Collectively, Battelle for Kids and its networks serve members and districts 45 states.

As the premier leader in 21st century education, Battelle for Kids innovates and partners with its networks, association and business partners, and school system leaders to design and implement educational experiences that prepare all students to become lifelong learners and contributors in an ever-changing world.

Learn more and get involved at battelleforkids.org/networks/p21.

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