# Imagination, curiosity, and play: The next generation of library skills

*By Michael Terborg*


## Snapshot

Torberg, an elementary school teacher-librarian from the US, explores the role of play and imagination in library programming and the broader world of primary education sharing a range of examples from his practice.


The world is changing rapidly, as always has been the case, however, with the onslaught of information, news, and research, change is happening faster than ever. Learning information is becoming less important while learning how to learn is becoming more so and this change will require education to adapt. Historically, play has mostly been viewed as frivolous, however, if the issue for learning becomes how to best prepare the mind to learn, play emerges as primordial to this purpose (Crow). Furthermore, unlike much of academic learning, play has its own rewards and while work tires, play energizes (Vygotsky, 2002). Research supports the view that children need an appropriate space and time for play. It benefits students in many different ways (neurologically). I suggest that the same needs to happen with information. Students need an opportunity to play with information, with research, and integrate technology in ways that make sense to them.


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The library is often referred to as the heart of the school. As such, with the right support it can play a key role in advancing student achievement, staff development, and more. What does this look like with the advent of the 4th industrial revolution and all that comes with it (AI, robotics, machine learning, etc.)? According to the World Economic Forum (WEF), creativity is one of the crucial skills for future employability (WEF, 2019). What will this look like for the library? I suggest that it looks like a blend of historic programs (research, storytelling, pleasure reading, etc.) and emerging programs (makerspaces, audio/video production rooms, etc.) in ways that promote literacy and a love of reading. Beyond that, it is important to emphasize curiosity and questioning as it is essential to creativity (Oxtoby, 2018).

How is this done? Using centers, stories, makerspaces, and more. Children need the opportunity to independently work or play with the tools, information, and other resources found in the library. Vygotsky concluded that sociodramatic play led to language use and symbolic thought. It is likely that the more one


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plays and works in the library, the greater the language use. What we're looking for is a place where children and others can work on improving the integrative and synthesizing parts of the brain (Oxtoby, 2018) allowing thinkers to develop the ability to make leaps of insight by interacting with multiple disciplines while creating a variety of products. The American Academy of Pediatrics concluded that 'play is essential to development', it allows children to use their creativity while developing healthy brains. It is the way that children interact with and engage the world around them.

> Play allows children to create and explore a world they can master, conquering their fears while practicing adult roles, sometimes in conjunction with other children or adult caregivers. As they master their world, play helps children develop new competencies that lead to enhanced confidence and the resiliency they will need to face future challenges. Undirected play allows children to learn how to work in groups, to share, to negotiate, to resolve conflicts, and to learn self-advocacy skills (Miller & Almon).

That said, play should not be completely unstructured. Students learning through a play-based curriculum, under the guidance of a teacher, are more likely to reap benefits in later grades (Wasik, 2016).

## Creativity

Creativity may be defined as the use of the imagination or original ideas and consists of four stages. The preparatory stage, which involves conscious attempts to solve problems using known methods, the incubation stage, where the conscious mind remains busy and the unconscious mind keeps working on the problem, the illumination stage where the results appear in a flash of insight, and the 4th stage where new ideas and insights are tested in a conscious and deliberate manner (Stevens, 2014).

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Creativity requires time, structure, and flexibility, things that may be difficult in the schools, Time is short due to pacing guides, timetables, and other factors. If managed right, the library can provide an opportunity for children to immerse themselves in their work, losing themselves in the creative process.

According to Stevens, there are many signals that students use to indicate a need for a break, and play with information in the illumination stage which may look a lot like daydreaming, allowing the brain to scan and play with information that may not be relevant to the conscious mind. The ability to identify these signals is a rarely taught skill which, if taught, will positively impact learning and classroom management (Stevens, 2014).

Play also allows one to increase one's stamina whilst working on developing the discipline and motivation it takes to learn and master the skills of a subject, topic, or trade. Therefore, one must allow time to play and use their imagination in all subjects. Remembering and imagining

use similar parts of the brain, all of which involve memories, visualizations, and abstract thought (Stevens, 2014). The creative imagination also uses those pathways but so do emotional states such as loss, regret, remorse, guilt, fear, anxiety, worry, and obsession (Stevens, 2014). Considering this, one has to wonder, what would happen to students' socio-emotional state, if our pedagogy and curriculum provide children the tools to manage their creative lives (Stevens, 2014).

Other research has indicated further benefits of play. In 1978, Vygotsky concluded that socio-dramatic play, requiring other children, led to language use and symbolic play. He concluded that language learning is fostered when children have opportunities to take initiative and make choices and decisions about the activities they engage in. Furthermore, play provides ways for children to express their feelings. (Bluiett, 2018).

Research also indicates that language development is facilitated by activities similar to scaffolded play (Wasik, 2016). One way to do this while reading is to provide opportunities to play with targeted vocabulary words in center activities which will lead to increases in vocabulary when compared to reading alone. Furthermore, adults can then use vocabulary in conversation which gives children an explicit connection between the objects and the word (Wasik, 2016). It is these interactions with adults that give children opportunities to build on what they know and supports learning of new ideas and in ways to discover the world around them. (Wasik, 2016)

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## Adapting our practice

Several years ago, I had the opportunity to participate in an early childhood technology certificate program. As part of the program, we worked with school age and younger children at Tufts University in Boston. This course illustrated how well the makerspace program can be used to integrate vocabulary, social emotional skills, and literacy into an engineering process. Utilizing the engineering design process, students work through a problem, design a solution, and share it with the group. On the first day, my group of students listened to a story about a boy imagining his ideal house. Children then needed to work together to build their own house out of a variety of parts from the makerspace. Watching these children go from co-work, that is working individually while sharing materials at the table to working together was striking.

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One of the course books, *Coding as Playground* written by Dr. M. Bers, director of Tufts' Early Childhood Certificate Program, suggests that current computer-based instruction techniques are designed in ways that restrict children's learning – similar to the way a playpen keeps children

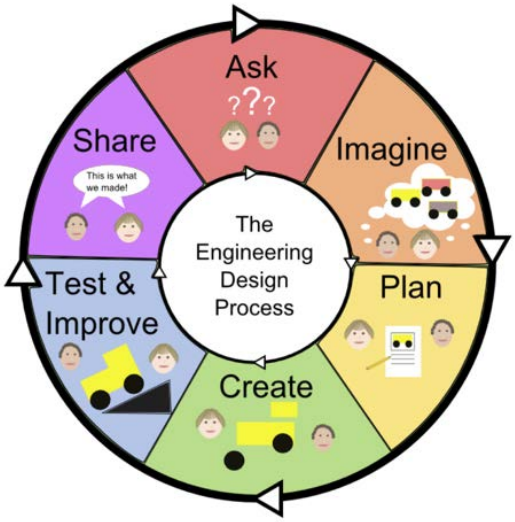


**Figure 1. Simplified diagram of the Engineering Design Process (Bers, 2018.)**

safe. She suggests that a better idea would be to build the learning experience in ways that allow children to explore, providing open-ended opportunities allowing for creative play, vocabulary use, and more. Rather than designing the learning environment to keep the instructor at the center, one would spend most of their time designing the learning experience and letting children safely explore and connect to ideas – similar to the way playgrounds are constructed (Bers, 2018).

The library is an ideal place to model this experience through both teacher/librarian led activities as well as those that are designed to be implemented as center or student led activities. The library, especially the school library, must be designed as a welcoming space for all students regardless of educational ability, reading interest, language use, and, to a certain extent, their ability to self-regulate their behavior. The goal of the library is to create readers and provide a place where children and adults can learn to explore their own interests and creativity; whether they're academic in nature, career focused, or focused on fun alone. It is imperative that the library enable students the freedom to explore their own curiosities as it is much easier for children to become early readers if they have enjoyed being an emerging reader and feel confident with their growing skills. (Miller, N.D.).

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According to Mario Livio, author of Why: What Makes Us Curious. curiosity and asking questions are a key to creativity (Oxtoby, 2018). Furthermore, it is through the synthesis of disparate information that learners make leaps of insight (Oxtoby, 2018). I believe that learners of all ages need to be exposed to things that make them curious.

This can be done in the library through genre tasting or book tasting activities where students get to sample books they might like to read. These activities can engage readers of all interest

levels, abilities, and backgrounds. In another activity, based on the concept of a restaurant, students get to choose 3 different books to experience. This enables them to both identify books they'd like to read as well as expand their reading interests. Tastings can also be done around subject areas. (Raimondo, 2018). Rather than write a book report, there are other ways to have students share their reading experiences. Students can create a video review, short book trailer, or longer video that may also include using a green screen to immerse viewers into the story or activity. Tools used for this might include iMovie(iPad/Mac), DoInk (iPad), TouchCast (iPad) or WeVideo.

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Another fun activity is storytelling, whether children tell each other stories or listen to one by adults. One of my favorite things to have students do whilst listening is to have them draw pictures about the story as I read. While I tell them that anything they draw must connect to the story, it's not something I check. This allows them to make a personal connection to literature, practice their speaking and listening skills, and demonstrate comprehension of what they're hearing. I started this activity several years ago as a way to get my kindergarten students to focus and listen. Students were actively engaged in this as they listened. By the time these students were in second grade, some of them were writing two-page papers on movies that we watched on topics like Martin Luther King Jr. Again, the same rules applied – write what you want as long as it connects back to the movie. This allows them to draw their own meanings from the movie or story. While I never read their papers nor collected their drawings, it is something that could be done as an exit ticket or other activity to demonstrate student understanding of a particular concept.

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Novel engineering, is an example of an activity that uses novels or stories as engineering prompts, video book reviews and trailers, green screen activities, coding as storytelling and primary sources, to extend exploration. This approach can introduce problem solving and engineering concepts to children. It is based on research out of Tufts University's Center for Engineering and Education Outreach (CEEO). Students act as engineers by working through a problem that characters encounter in the story. For example, when reading a story about a gardener having trouble with pesky rabbits (*Muncha, Muncha, Muncha* by Candace Fleming) children have to design and build a prototype to help the gardener to protect his crops from the rabbits. Over the course of several weeks, my kindergarten students worked on designing and building their projects. We began by creating an engineering portfolio or journal to keep their documents organized. While it took several meetings to finish reading the book, the children were able to recall and retell the story each time. The teacher and I saw

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students conversing, working together, and documenting their work along the way. I believe that this is a good way for children to deepen the way they interact with literature and begin to empathize with the characters in meaningful ways.

While I was working at a particular school, they happened to close the library due to space constraints (the elementary school had a population of over 1,100 students in building designed for 900) and I ended up traveling to the classroom. This change encouraged me to utilize primary sources from the U.S. Library of Congress as part of my lessons. After collaborating with the classroom teacher to identify a theme, I chose a number of pictures, maps, audiofiles, and other materials that related to our topic. I usually worked around the exploration of the Americas, the U.S. Revolutionary War, in particular Boston, and the 18th Century. Through this process, I realized that primary sources are tools that enable students of all backgrounds, abilities and language levels students to participate in class discussions either as part of the whole group or in smaller individual groups. One year, it took me until about March to realize that I was working with the English Language Learners and special education students as their discussions were of such a high caliber compared to the other classes. Another example is from a second grade class where we discussed shapes and this particular class continually identified shapes in every story or movie that they saw with me.

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At least in the United States, coding is very popular right now. I typically use Scratch Jr. which is currently available for IOS and Android with my pre-K to second grade students (5-8 years old). I start the activity by showing the students how to make the cat move; leaving the rest for the students to discover. I do this as I feel that if they do not discover something, they're not ready for it. That said, if I feel the need to introduce something I typically choose a child that is not one of the more outgoing or popular children to be my class expert. This gives them something that they control and forces the others to interact with them. After students learn how to use the application, the next exercise would be to start providing students with design parameters such as design a story with three scenes, include a certain number of characters, create a script for the story, design a game based on a favorite book, movie, etc. The above could also be done with Scratch, a coding application for older students.

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While most everything I have done wouldn't be considered play, I try hard to make my sessions engaging, interactive, and safe for all participants. I don't force people to participate, I encourage them to speak up, I also accept everything they say even if I'd consider it incorrect as long as they can provide evidence of their thinking. My lessons are designed around student conversation or student led activities as their discussion tells me what students need to learn, what they know,

and what misconceptions they may hold. It also gives them an opportunity to show me what misconceptions I might have. I'd like to think that my activities enable students to engage in their own creativity, explore ideas and tools by introducing topics or going deeper into subjects than they might otherwise not have an opportunity to explore. I believe that it is important to engage students in ways that spark their curiosity as their brains are already saturated with information in ways that we have never seen. We need to provide a way to pique their interests in ways that stimulate them rather than expecting them to sit when their brains are not primed for the task at hand. We need to rise our level of engagement to meet their brains baseline activity levels, my instincts tell me that students need more. Besides, some of these tools are cheaper than ever. Things like copper tape, LEDs and art supplies are readily available and students should be exploring how to integrate them into the various disciplines and subjects to enrich and extend their learning in all areas.

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The most important part of the journey is the story. People learn best through stories and libraries are the guardians of the story. Our minds connect with the emotions of the journey, and if we provide students with safe ways to grapple with their humanity and their personal and academic interests, they will be unable to resist the challenges. Students are enticed by puzzles, offering them engaging activities of this kind will encourage them to be active participants in their own education. According to John Medina, a developmental molecular biologist and author of *Brain Rules for Baby*, the most active time in a child's day, neurologically speaking, is at recess. This illustrates that something must change. We need more play in our children's lives rather than less.

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