Building a Community for Risk-Taking and Innovation

"Vulnerability is the birthplace of innovation, creativity and change."

—*Brené Brown*

If we expect our students to take risks and try new things, we as educators need to model the idea of risk-taking responsibly. This chapter provides practical ways to do so within schools and classrooms and shows how to encourage this mindset within families and communities.

According to the ISTE Standards for Educators, teachers should "continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning" (International Society for Technology in Education [ISTE], 2017). For teachers to be global collaborators and leaders in using digital tools and resources, they need continual opportunities to engage in professional growth and learning. With this in mind, in this chapter we'll share tools and ideas for creating professional and personal learning networks to help support an environment of risk-taking, innovation, and community building.

Chapter Overview

This chapter will cover the following:

- Supporting students as innovative designers
- Encouraging risk-taking in teachers so they can model responsible risk-taking for students

- Creating a trauma-sensitive environment that supports healthy risk-taking
- Techniques for supporting risk-taking in the classroom and beyond
- Reflection questions specific to experimenting with new technologies and teaching methods

Student as Innovative Designer

> "Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions."
>
> —*ISTE Standards for Students, Standard 4: Innovator Designer*

According to the Student Standards, "students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks" (ISTE, 2016). Also stated within this standard is that students should "exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems" (ISTE, 2016).

For students to be able to take risks, they need to be able to work through problems and uncertainty, skills which require creativity and innovative thinking. Technology can be used in a variety of ways to foster creativity while encouraging children to consider and manage risk. For example, many classrooms and schools are using tablets to enhance student learning. With the use of a tablet, young children can

> brainstorm ideas together, develop various alternatives to solve problems, share ideas and work, and develop solutions using various technology tools, such as 3D printers, painting tools, cloud-based notebooks, composition tools, and interactive management solutions for tablets and electronic boards. (Kim, Park, Yoo, & Kim, 2015, p. 207)

When tablets are used interactively in the classroom, they can help young children develop creativity by learning to express their ideas in a variety of ways (Kim et al., 2015). But the open-endedness of the tablet provides many options to choose from, and trying out a new tool can be risky for some teachers and students. Although making decisions and trying new things can bring about uncertainty, taking risks can also actually promote the development of skills such as perseverance and

problem solving. Encouraging teachers and students to take a chance can enable them to take calculated risks.

When choosing activities involving tablets, be sure to include opportunities for students to collaborate and share creative ideas with one another. Giving students opportunities to choose which tool they will use also encourages risk-taking.

This is just one way to look at how to introduce and encourage risk-taking for young children. But where and how can children learn these skills?

Teachers as Risk Takers

Risk-taking looks different for different people. For one student, a risk may be raising his or her hand or trying a new activity. For another, it could mean building a robot from found materials, similar to the preservice teachers in Figure 2.1. But before we even think about risk-taking in terms of young children, we need to have safe environments where teachers, students, and administrators feel it's acceptable to make mistakes. Teachers—supported by administrators, peers, and families—must be able to embrace risk-taking as productive and integral to their classroom environment in order for students to be encouraged as risk takers.

Figure 2.1 Preservice teachers engage in risk-taking behavior by building robots from household materials for the first time.

A blog post from Schools That Work captured risk-taking in a way that shows how important teachers are in supporting risk-taking: "So risk is what we allow and expect in our classrooms—risk combined with abundant opportunity and the safety of being treated as a cherished individual" (Thornton, 2015, p. 1). Indeed, when things do not work as planned, it creates an opportunity to talk about how to learn from mistakes, reflecting on what can be done differently, and trying again. Thornton (2015) described the need for risk-taking and how it works best when supported at all levels:

> Teachers learn to learn from each other as well when spaces for risk become the norm, and the same is true for administrators. Creating space for risk begins at the top of any school system. Principals must have space for risk, so that teachers have space for risk, so that students have space for risk. (para. 11)

In our many years working with teachers, we have heard repeatedly how teachers feel they benefit more from having time to talk with one another and share ideas than from any other form of professional development. One district encouraged teachers to collaborate with one another through inquiry and then develop learning plans (McCrea, 2015). The collaborative process, encouraged by the district, helped the teachers take a risk, learn something new, and share their learning with others. When teachers feel comfortable with each other, they can create a safe space that can translate into safe spaces for students within their own classroom settings.

Diane felt that she did not know as much about technology as some of her colleagues did, so integrating technology was not easy for her:

> I fall short in using technology as I am not as tech savvy as the newer and younger teachers. I wish that I could have grown up in the technology era that the younger teachers have been in, as I see how engaging the technology can be with just what I use.

Over time, she observed her colleagues and got ideas from them, and began to take risks in her own classroom. For example, Diane obtained a grant to purchase Kindles for her learning support classroom and described experimenting with this technology:

> The reading program we use in our district utilizes learning videos that are used interactively with the class. In addition, the math program the other teachers use also have parts that can be used interactively. I have Kindles that I use as a reward for my learning support students who come to my room and complete their assignments to the best of their ability.

Diane provided the following advice to other teachers: "I would say learn as much as you can about technology and keep up to date on the newest technology that is available." It's important to stress that what might not be a risk for one person may be a big risk for another. We also recommend trying one new thing at a time and not trying to do too many things at once. As part of the support process around risk-taking, when other teachers or students share that they tried something new, it's important to encourage them and celebrate the risks they are taking.

Co-teaching and collaborating with other teachers can help support teachers like Diane who may not be as comfortable integrating new technologies. Thornton (2015) reiterated:

> People shy away from risks because they fear failure—but what's so bad about failing? Some of the greatest moments of understanding happen after we've "failed." Viewing failure as a typical aspect of the learning process allows a learner to appreciate the need for risks. (para. 6)

Here are some suggestions on simple ways to create space for risk:

- Model risk-taking by trying out something new and letting your students, colleagues, and others know you are trying something for the first time.
- If things don't work out, use this as an opportunity to discuss what happened, what could be done differently, and what was learned from the experience.
- Allow time for informal conversations and community building and time to get to know each other.
- Create a fun environment; for example, integrate activities that are hands-on, engaging, and fun.

Supporting Teachers in Taking Risks

Because many teachers learn from one another and thrive when supported by colleagues who encourage risk-taking, it's important that they continue to build and rely on their personal and professional networks. As suggested earlier, because teachers are the drivers behind risk-taking in their classroom, they need support in creating a classroom environment that ensures that they are willing to take risks so that their students can do the same, improving their learning and development. Within the Educator Standards, the following suggestions are provided to educators on being empowered professionals:

- Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.
- Pursue professional interests by creating and actively participating in local and global learning networks.

- Stay current with research that supports improved student learning outcomes, including findings from the learning sciences. (ISTE, 2017)

Connecting with other educators and creating a personal and professional learning network "begins and ends with a genuine and sincere effort to connect in order to serve a cause greater than ourselves" (Whitaker, Zoul, & Casas, 2015, p. 2) (Figure 2.2). We have included the stories of teachers, community members, family members, friends, and our undergraduate and graduate students in this book. We collected responses—from across the country (California, Illinois, New Jersey, Pennsylvania, Rhode Island, Wisconsin)—in a Google form that we shared with our social networks, our students, and community members. As teachers, the more we open ourselves up and connect with others to discuss what we are doing with young learners, the more we—and thus, our students—benefit. Because we have access to technology and can connect virtually with anyone we meet, there are no limits to our personal and professional learning networks. As we connect more with others, we can learn from and support one another in taking risks. Creativity and risk-taking in our peers' classrooms can inspire us to also take risks. For example, in Chapter 1, we included images of how teachers redesigned their classrooms. We hope these pictures and stories we collected through our personal and professional network help others redesign their own classrooms to inspire creativity and innovation.

Figure 2.2 These educators are connecting, collaborating, and experimenting with coding at a family and community event. One of the educators in the group had experience with coding and supported the others as they learned and explored something new.

Alyssa appreciates learning from others and felt that professional learning communities provided her with the support to take risks and try out new things in her classroom:

> It's important to make learning fun. Technology is changing and teachers need to stay ahead of the curve. Teachers learn from teachers—I follow several teacher blogs to learn the new and changing apps and websites. I also learned a lot during my Master's program at Neumann University. Professional learning communities (PLCs) are great ways to share ideas with others as well. Since risk-taking can be a new experience in the classroom for me, participating in a professional learning community is a way to gain insights and motivation to try something new.

Twitter is an excellent resource for building a personal and professional learning network and for connecting with others who can share their own ideas and experiences. A few of the stories collected for this book came from requests sent out through Twitter and we connected with others we hadn't met before. For example, I (Laura) saw a Tweet about the Cardboard Challenge (described in Chapter 5) and integrating this within a math classroom. The next day, I implemented the Cardboard Challenge in my teacher education classroom. Some of my students, who are already teaching in classrooms, went on to implement the Cardboard Challenge in their own classrooms. This is a ripple effect of nurturing young innovators—and it all began with one Tweet.

Whitaker, Zoul, and Casas (2015) considered connected educators as those who grow their knowledge base while giving and sharing their own knowledge, and Twitter provides a way to do this globally. If you are already using Twitter, then we recommend that you keep building your professional learning network, looking for those ideas you can implement within your classroom to nurture young learners and sharing ideas others can use to keep the ripple effect going.

If you are not yet on Twitter, here are some first steps:

- Create a free Twitter account.
- Make your user name similar to your actual name so people can find you.
- Add a picture to your profile.
- Search for accounts to follow that you are interested in. Throughout this book, we suggest accounts to follow that correspond with each chapter.
- Start Tweeting or Retweeting things you find that are helpful.
- If you are looking for a certain topic, you can search by the hashtags. For topics related to this chapter, you can search for #edtech.
- Get used to creating messages consisting of 140 characters or less—these will help you get to the point.

Creating Trauma-Sensitive Environments that Support Healthy Risks

Many young children experience adverse childhood experiences (ACEs) and we need to ensure we are creating trauma-sensitive environments in which they can learn. If we want children to feel free to try things out in our classroom and take

healthy risks, we need to ensure they feel safe and secure. Statman-Weil (2015) shared the following:

> A significant number of children experience trauma, and the effects can be profound. It is imperative, therefore, that early childhood settings be safe, trauma-sensitive spaces where teachers support children in creating positive self-identities. (p. 73)

When people experience adverse circumstances, it's natural to enter into survival mode in which learning is not the focus or even possible (Souers & Hall, 2016). Sometimes children react to such situations with behavior that is challenging or inappropriate. Maslow's hierarchy of needs is a theory that supports the idea that children cannot learn if their basic needs are unmet and they do not feel safe. Adverse childhood experiences (ACEs), which can include anything that causes undue stress and trauma to children, are becoming more evident and prevalent within early childhood settings (ACE Response, 2017). Some examples include abuse, neglect, violence, mental illness, divorce, death, or an incarcerated family member. ACE Response (2017) reported, "teachers, school administrators, parents, and others within and beyond the education sector are teaming up to create healthy and supportive school environments that promote the academic success of all students" (para. 3). The first step to supporting children with ACEs is to be aware of trauma or the possibility of trauma and create a trauma-sensitive classroom.

Here are some suggestions to help create a trauma-sensitive environment:

- Allow opportunities for students to express their feelings.
- "Look beyond choice and focus on motive" (Souers & Hall, 2016, p. 32).
- Recognize sometimes the behavior is a consequence of what is going on.
- Communicate with other colleagues and share ideas with one another.
- Include families as much as possible and be open and inclusive (Statman-Weil, 2015).
- Model resiliency and embed learning opportunities on how to be more resilient.
- Provide students with opportunities to make better choices through critical and creative thinking.

Community Connections

Creating a Trauma-Sensitive Classroom Environment

Bernadette S. Taddei, M.Ed.

One of my experiences included working in an after-school partial hospital program at a residential home for abused and neglected children. The children attended several public elementary schools during the day. In my experience, school was a safe place where they were the same as everyone else and they could, if only briefly, forget about family tragedies, illness, abuse, addiction, neglect, and other circumstances that temporarily or permanently separated them from one or both of their parents.

The children often faced academic challenges and the public schools worked diligently to provide the assistance each child required to reach their potential. It would be reasonable to assume that exam days or days projects were due would be the most challenging to a child who lived in a residential program (or any situation without both or one parent involved in a child's life) but the days that often brought the most anxiety and pain were the days that some may take for granted: Mother's Day, Father's Day, Valentine's Day, and other holidays, as well as the days surrounding the holiday.

Teachers would often have well-intentioned projects for the students to create—projects full of hearts, flowers, and gifts with "Mom" or "Dad" clearly emblazoned on them, or maybe an essay assignment based on the role of a mother or father, or written assignments about family activities the child participated in during the summer, fall, or winter break.

To reduce trauma, teachers' approaches to these projects and assignments only require that they view them from the child's perspective. For example, if working on a project about mothers, focus on the qualities of a mother that you want to celebrate and acknowledge the roles that other people fill in the lives of many children. So, if the assignment starts off with discussing mothers, approach the word "mother" as a verb. Ask students: What does it mean to "mother" someone? Who are some people in your life who are like a mother or father to you? Do you have people in your lives that take on that role when a mother or father cannot? Do moms and dads need help sometimes? Who might help them? The specific reasons why a mother or father is not present or why they require help don't need to be discussed. It's important to expand the discussion so that all students can fully participate and not feel

(continued on next page)

(continued from previous page)

excluded. Students should feel encouraged to make a gift or write an essay with the flexibility to adapt it to their viewpoint without feeling singled-out.

Teachers need to be prepared that even when these holidays and projects are approached with the utmost compassion, understanding, and openness, a child dealing with trauma may still have a formidable task coping. Mindful of this, students may need space and time to grieve or someone to talk to. Every child, like adults, will manifest this in different ways—physical pain, anger, isolation, or illness.

Small adaptations can go a long way in decreasing or eliminating the pain a child feels when having or experiencing trauma. It's important to be mindful of each child's unique situation and review lessons from his or her perspective and be flexible to allow children to incorporate their unique life situations to each project without fear.

Community Building to Support Risk-Taking

When classrooms and schools focus on community building, this fosters a nurturing and encouraging atmosphere for young children, and ultimately, fosters risk-taking. When people feel connected and safe within their classroom, home, or community, they may be more willing to take chances with learning and to make mistakes. The more we can include families and communities in what we're doing in our classrooms, the more we can build a transparent and open atmosphere where we can share what our students are doing and learning, and the more passionate and excited we all become about learning.

Technology can provide an excellent way to build community in the classroom. For example, Peg shared various ways she and her students use technology to learn and build community:

> We use digital resources such as Office 365, SharePoint, and Skype to interact with my students. We share documents, interact in discussion boards, and Skype during and after school hours. Letting students communicate digitally with me and their peers creates enthusiasm for learning during and after school hours. Students who do not share much in school have shared more online with the class. I get to see another side of my students, and they can't wait to learn new ways to communicate and find new friends and family to communicate with. I also have

videos of me in our OneNote for Classroom that students can use for new learning or a reteach of something they've already been introduced to.

The most effective way to engage families, and thus build community, is to ensure the technology provides for two-way communication (Mitchell, Foulger, & Wetzel, 2009). Sharing photos with families using technology can help build community. Photos can be shared on a class website or on Facebook. We have used multiple free resources to create classroom websites. For example, Wikispaces (wikispaces.com) is free to educators and provides a user-friendly way to create a class website. You can invite families to join the website and also open it up so they can contribute to the website if appropriate. Google Sites is also an easy-to-use option. Whatever option works for you is the one you should use.

Pinterest provides an easy way to collaborate and share ideas. Families can follow teacher or school Pinterest boards, and they can share their own boards too. As we were writing this book, we also used Pinterest to share ideas that were relevant to topics within our chapters. Here are links to our Pinterest pages related to topics in this book.

Pinterest Boards Related to Nurturing Young Innovators

- Nurturing Young Innovators (www.pinterest.com/ltaddei2/nurturing younginnovators)
- Family Involvement Ideas (www.pinterest.com/ltaddei2/family-involvement-ideas)
- Trauma-Sensitive Classroom (www.pinterest.com/ltaddei2/trauma-sensitive-classroom)
- Random Acts of Kindness (www.pinterest.com/ltaddei2/random-act-of-kindness-ideas)
- Makerspace Ideas (www.pinterest.com/ltaddei2/makerspace-ideas)
- Creative Arts, PK to fourth grade (www.pinterest.com/ltaddei2/creative-arts-ece-245)
- Science Methods, PK to fourth grade (www.pinterest.com/ltaddei2/science-methods-ece-315)
- Math Methods, PK to fourth grade (www.pinterest.com/ltaddei2/math-methods)

Next, we'll share a few examples of wikis created by our preservice teachers to share ideas and resources. When we first integrated wikis within our classes, there was definitely a risk because this technology tool was new to the students

and many were anxious about learning how to use the wiki. We received pushback from students who were fearful of trying something new. With persistence, the wiki creation became a large part of many of our classes. Students became innovative designers and persisted through the ambiguity and found ways to use wikis to share information, collaborate with their peers, and learn new ideas and ways to teach. The preservice teachers created their own lesson plans and found resources to reinforce concepts they were teaching and learning. Here are a few examples:

Math Methods—PK to Grade 1

As part of their class, students in ECE 224 (examples below of Fall 2014 and Spring 2015) created a class wiki that provided resources and suggestions on ways to implement mathematics into PK through first-grade classrooms. Students created and shared lesson plans related to math with their classmates and the broader community:

- ECE 224, Fall 2014 (mathmethodsfall2014nu.wikispaces.com)
- ECE 224, Spring 2015 (mathmethods1spring2015.wikispaces.com)

Science Methods—PK to Grade 4

As part of their class, students in ECE 315, Science Methods—PK to Grade 4, created a class wiki. This wiki assignment provided resources and suggestions on ways to implement science into PK through fourth-grade classrooms. Students in this course added resources that provided support and suggestions for teaching science to young children.

- ECE 315, Fall 2014 (sciencemethodsnu.wikispaces.com)
- ECE 315, Spring 2015 (sciencemethodsspring2015.wikispaces.com)

Integrating the Arts—PK to Grade 4

As part of their class, students in ECE 245, Integrating the Arts—PK to Grade 4, created a class wiki. This wiki assignment provided resources and suggestions on ways to integrate the arts into PK through fourth-grade classrooms. Students in this course added resources on the pages of this wiki that provided support and suggestions for integrating the arts.

- ECE 245, Fall 2014 (integratedartsnu.wikispaces.com)
- ECE 245, Spring 2015 (integratedartsspring2015.wikispaces.com)

Techniques for Supporting Risk-Taking in the Classroom and Beyond

Young learners need opportunities to take risks, and in this section we provide suggestions on how to support them in the classroom, home, and community. First, we'll discuss the importance of play in helping children take risks. Next, we'll address focusing on the process rather than the product so that learners can create and innovate without worrying about making mistakes. Finally, we share ways to teach above the line and use technology tools to modify and redefine learning.

Encouraging Risk-Taking Through Play

Play is an excellent vehicle to help encourage risk-taking in young children. Young children thrive when they play, and play brings people together and helps to relieve stress. Free play for young children is "a great way for them to focus on creative thinking, which allows them to forget what is troubling them." (Voice of Play, n.d.) Kevin Carroll (2012) described play as a way to change a life in his TEDxHarlem video (https://youtu.be/1pz72Wygg8c). Within this video, Carroll (2012) stated, "Play is serious business. Play is at the root of creativity, problem solving, abstract thinking, imagination, innovation." Carroll provides additional ideas about play and how sports and play can change the world on his website (kevincarrollkatalyst.com). Children are natural adventurers and curious. They need planned opportunities to explore. Almon (2013) reiterated, "when children are given a chance to engage freely in adventurous play they quickly learn to assess their own skills and match them to the demands of the environment." Through adventurous play, children are allowed to take chances and they become more confident and resilient, which are both characteristics of risk-taking.

In Chapter 1, we shared multiple ideas on how teachers have redesigned learning spaces to support imaginative thinking and risk-taking. For example, when inside their classroom redesigned as a train station (Figure 1.14) and seated in their train car (Figure 1.15), children can imagine they are going on an adventure to anywhere. In this example, technology could also be integrated by having children use Google Earth to look at different locations they will be visiting on their train ride. Videoconferencing tools can be used to connect with classrooms in different schools. The use of these tools can redefine learning because children can use their imagination to take the trips and then talk with children who live in these areas, making connections to real life.

In addition, play experiences embedded within classrooms and connected to curriculum can expose children to areas they may have otherwise never been interested in. For example, the space center–themed classroom included in Chapter 1 (Figure 1.10) could spark science-related adventures and interests for young learners. To integrate technology in this design, one example would be to include virtual tours that help children have a more visual experience with the topic. For the space center theme, students can experience a virtual tour of the International Space Center at Space.com (tinyurl.com/NYI-spacetour). In addition, NASA provides many free resources for educators organized by grade level (tinyurl.com/NYI-nasa). This is also a great way to engage both boys and girls in STEAM (science, technology, engineering, the arts, math) topics (discussed more in the next section and in Chapter 5).

As suggested in the NSTA (National Science Teachers Association) (2009) position statement on Parent Involvement in Science Learning:

> Seek out opportunities to introduce your children to individuals in your community whose work relates to science or technology. This may include trades and professions such as construction or manufacturing, public safety, medicine, natural resource management, or research. (para. 7)

In Chapter 1, community member Jim Butt shared how he visited his school district in partnership with his local company and talked to students about innovation and his work as an aerospace engineer. Similar to classroom redesign themes, these types of visits and experiences can spark interest in students that may encourage them to try something new or lead to a lifelong interest and a career they love and are passionate about.

Process over Product

In order for children to feel that it's safe to take risks, they have to know mistakes are accepted and not penalized. Reynolds (n.d.) stated, "without risk, there is no challenge, and consequently, there is no growth. Both physical and intellectual risks are vital to the normal development of a child." Oftentimes, children are concerned about grades; and therefore, they may be hesitant to take risks if they're worried that doing so will affect their grades. Connecting the grade to the process instead of the final product would help create an atmosphere where risk is supported and even rewarded. Defors (2016) shared a rubric (tinyurl.com/NYI-risktakingrubric)

created to grade the process not the product. Although this rubric was developed for older students, it could be modified to work for younger learners too.

STEAM projects often provide children with an opportunity to focus on the process and not the final product. Because STEAM projects can be very open-ended, children may worry about whether they are doing something right or not. Assuring children that the process is more important than the final product will help alleviate their concerns. In Chapter 5, we share specific STEAM ideas and ways to engage children in these activities that encourage risk-taking while nurturing innovative designers.

Teaching above the Line

When we think of risk-taking related to technology integration, we think of teaching above the line as described by Puentedura (2009) with the use of the SAMR (Substitution, Augmentation, Modification, Redefinition) model. Many times, when technology is integrated, it may be used as either a Substitution or an Augmentation to learning. Teaching above the line takes learning beyond Substitution and Augmentation, and learning is Modified or Redefined with the use of technology. We believe technology integration needs to be thought through and intentional, and reflecting after the activity or lesson is also an excellent way to evaluate the learning. We use the SAMR model developed by Puentedura (2009) when planning and deciding on technology integration. Without support and ideas, technology may mainly be used as a Substitution (acts as a substitute, but with no real change) or Augmentation (acts as a substitute with improvement in function). Schrock (2013) provides a multitude of suggestions on ways to teach above the line and move toward Modification (technology allows for significant task design) and Redefinition (technology redefines the learning and allows for something that would be impossible without the use of technology). Schrock (2013) provides further examples, videos, and charts to explain the SAMR model in more detail on her website Kathy Schrock's Guide to Everything (schrockguide.net/samr.html). We stress that the focus is not on the tool, but the learning.

We have developed a list of activities that include technologies used to encourage creativity and innovation in young children, differentiated for various grade levels, and defining where the idea falls along the SAMR ladder and why (ie., Substitution, Augmentation, Modification, and Redefinition [Table 2.1]). You can download a blank template on our wiki (nurturingyounginnovators.wikispaces.com/Resources) and modify it for your own reflection on teaching above the line and using the SAMR model.

Table 2.1 Creativity/Innovation Technology Activities Using SAMR Model

Activity	Grade Level	Technology Used	SAMR Level
Creative Arts: Students explore Van Gogh's art and then draw their own version of one of Van Gogh's pieces.	Grade 3	Instead of using paper and drawing material, students can create their artwork on their mobile device. They could use Sketchpad or Doodle Pad.	Substitution: technology acts as a substitution and there is no functional change.
English Language Arts: Students brainstorm and create a digital poster or mind map of a topic they've researched.	Grade 3	Popplet (mind map tool), MindMeister (brainstorming tool)	Augmentation: technology acts as a tool substitution and there's some functional improvement.
Math: Introduce children to computer programming and coding. Early learners start with symbols.	K to Grade 2	Kodable, Code.org, or ScratchJr—make sure whatever technology you choose allows children to build and create.	Modification: With the addition of the technology, the task is redesigned.
Science: Find simple machines in action, take photos of them, then use stop motion software and/or create a commercial.	Grade 2	Students can choose what technology to use, but some suggestions include recording with a digital camera, iPad, or mobile device, or using a stop motion software tool. Examples are PaintShop Pro animation studio, Stop Motion Studio, and MonkeyJam.	Modification: with the addition of the technology, the task is redesigned.
Social Studies: Connect with a classroom in another community and have students conduct interviews and ask one another questions.	PK to Grade 2	Skype, Google Hangouts	Redefinition: this activity couldn't occur without the use of technology, demonstrating a redefinition of learning.

If Doing This . . .	Why Not Try This?
Twitter for Professional Development. If using Twitter to follow applicable feeds as a professional development tool	**Use Twitter Chat.** If already using Twitter, why not take part in a Twitter Chat? We found a great Twitter chat on risk-taking that goes well with this chapter. Check out Mark Barnes' Hack Learning website (hacklearning.org) and find the next #HackLearning Twitter chat. You can also find archives for past #HackLearning chats, such as this Twitter chat on Improving Ed Tech in Schools (goo.gl/bjE2mR).
Experimenting with New Technology. If trying out a new technology tool in your classroom	**Collaborate with Colleagues.** Partner with colleagues and decide to collaborate with the use of technology on specific course content. For example, create a wiki and collaborate as a means to share professional development resources.
Using YouTube Videos. If using videos in your classroom to support learning	**Teacher YouTube Channel.** Create your own YouTube channel and record videos of class activities and share with families and the community. Also have your students create their own videos and share them on the YouTube channel.
Following Blogs as Professional Development. If you follow blogs to learn about educational technology	**Start Blogging and Sharing What You Know.** A good place to start is Edublogs, a free and easy-to-use resource for educators (edublogs.org).

Projects for Building Community to Support Risk-Taking

We recommend engaging families and communities and inviting them to events where they can come and engage and have fun. Such events can build community, promote risk-taking through play, and demonstrate the benefits of collaboration. This connects with the Educator Standards, as teachers are called to "demonstrate cultural competency when communicating with students, parents and colleagues and interact with them as co-collaborators in student learning" (ISTE, 2017).

Global School Day of Play

This project can be used for any grade level.

The Global School Play Day provides a way to advocate for play in schools, classrooms, and community. There's a Global School Play Day every year, but schools can either join in and participate on the global day or create their own day of play. Given that many schools are eliminating or reducing play in the classroom, this is a wonderful initiative to raise awareness of the importance of unstructured play.

Note that children can bring in toys to play with for the day of play, but the tools should not have batteries. Also during the day of play, there should be no screens and children should choose how to play and what to play. Play is student-driven and unstructured.

Here's how to get started:

- You can sign up using Google Forms on the Global School Play Day website (globalschoolplayday.com).
- Advertise your school's Global School Play Day by sharing information about the event with families, colleagues, students, and community members to engage everyone. Peter Gray's TEDx video "The Decline of Play" (https://youtu.be/Bg-GEzM7iTk) can be used to demonstrate what it's all about.

Family Night: QR Code Scavenger Hunt

This project can be used for any grade level.

Create a scavenger hunt, and use a QR generator to create QR codes of a Google form you created (Figure 2.3). Families can scan the QR code with a free QR code reader and then submit answers into the form. Each QR code they find will be different, and they will scan each one and submit their responses, watch a video, find out where to go next, and so on.

Figure 2.3 Here is an example of a QR code we created that links to our family survey. If someone does not want to use the QR code, they could also use the link (kaywa.me/9Pm6b) to get there.

Here are the steps to do this:

1. Create a QR code to link to websites or resources you want families to explore. We provide suggested ideas on areas you can link to for this family scavenger hunt; however, we encourage you to come up with your own ideas. You decide how many QR codes to use and where the QR codes will link to provide further information to families. For instance, the following QR codes could be posted around the classroom for families to scan with a QR reader (or, if they aren't comfortable using a QR reader, they can use the URLs provided):

   - **A short family survey using Google Forms** (tinyurl.com/NYI-familyscavengerhunt) prompting the families to explore different areas of the school and classroom. They can answer the questions on the form online as they walk along and also scan different QR codes placed around the room.

   - **A class wiki or school website;** example of a wiki created by one of the authors (tinyurl.com/NYI-drtaddeiwiki)

   - **A presentation to let families know about their student's teacher;** example of a Prezi (tinyurl.com/NYI-drtaddeiprezi) one of the authors used to introduce herself to students (although this example is at the college level, it can be used at any level)

   - **A Padlet page** (https://padlet.com/ltaddei/ew777rs9po0z); you can ask families to add pictures of their family/child to the page

2. Copy the link for each resource into a free QR generator. We used Kaywa.com (qrcode.kaywa.com).
3. Print the QR codes and post around the school/classroom.

Note that families will need to download free QR readers on their phones/mobile devices. There are many to choose from. You can also have mobile devices available and ready with QR readers for families to use to complete the scavenger hunt.

Kathy Schrock's Guide to Everything (schrockguide.net/qr-codes-in-the-classroom.html) offers many other ideas for how to integrate QR codes in the classroom.

Here's a good example of a QR code tree that families can scan to find out information about Murray Hill Middle School in Howard County, Maryland (www.flickr.com/photos/info_grrl/6158600469). This QR activity can be created for any school.

+ Reflection Questions

Here are some questions to consider after you've completed this chapter:

- What kind of risks do you plan to take in your classroom or school? How will you encourage children to take risks?
- What are some ways you help to create an environment where mistakes are embraced and where we learn from our mistakes?
- How can you create a trauma-sensitive classroom?
- What are the challenges you may face when encouraging risk-taking?
- How can you support your peers when it comes to embracing technology and trying something new?
- How can you embed more time for children to play and explore to encourage risk-taking and innovative? Children are naturally adventurous. How can you create environments that encourage adventure?
- How can you encourage children to be innovative designers and to persevere when taking part in open-ended and ambiguous activities?
- After reading this chapter, what is one thing you will try that you have not done before?