Designing Digital Experiences for Positive Youth Development
From Playpen to Playground

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Introduction

We are the children of our landscape; it dictates behavior and even thought in the measure to which we are responsive to it.

—Lawrence Durrell

This book is about children, technology, and human development. However, it is also a book about space. Most specifically, this book is about intentionally designed spaces for children to play, learn, and interact. In the process they engage in the developmental tasks that psychologists have described. But we cannot explore the spaces in this book by taking a stroll. These spaces are digital. And we are immersed in them without "3-D glasses or virtual reality.

Think about landscapes. Some landscapes are natural, unaffected by human activity. However, most landscapes are not only impacted but also designed by humans: Think about landscape designers and architects who master the art and science of arranging and modifying space for aesthetic or functional reasons. This book is about designing digital landscapes with a developmental purpose, to support positive outcomes for children and teens. Yes, positive. There is intentionality, value judgment, and a sense of right and wrong regarding the best digital spaces for our children. This book takes a stance. It is driven by values. It is also driven by a sense of urgency—as the design of our digital landscape is increasingly guided by commercial purposes and not by developmental concerns.

The premise of this book is that understanding our digital landscape as a designed space provides us with opportunities to become landscape designers, as opposed to merely users, consumers, or critics. We don't need to build the technologies ourselves, in the same way that landscape designers don't make the plants or natural resources that they utilize. There is a vast selection on offer, and they can choose what to use, if they learn how to choose. Here, again, is where values come into this discussion.
Landscape designers take into account contextual factors such as soil, drainage, and climate; the survival of plants depends on those. In a similar way, as designers of a digital landscape that promotes positive development, we take into consideration the children's social, emotional, cognitive, physical, civic, and spiritual needs. But we also consider the unique design features of each technology and the practices and policies that shape different interactions in the digital landscape. Like landscape designers, in the 21st century we have a vast array of materials to choose from. But we need a framework to guide our choices. This book provides such a framework: Positive Technological Development (PTD). PTD informs the design of a digital landscape that promotes good, developmentally appropriate experiences with technology.

Although this book is about new technologies, it is inspired by an old question: "How should we live?" The pressing issue is not what kind of digital landscapes we will build, but what kind of people we will become as we inhabit those spaces. This book presents an approach to help children gain the technological literacies of the 21st century while developing a sense of identity, values, and purpose. PTD informs the design of digital spaces so children can use new technologies to become better people and to make the world a better place.

Too often youth's experiences with technology are framed in negative terms (e.g., cyberbullying, sexual predation, invasion of privacy, addiction to video games, etc.). This book acknowledges those problems and risks and takes an interventionist perspective. It invites readers not only to observe and describe the digital landscape but to actively engage in designing it. We want a digital landscape for children and youth to develop as grounded individuals who can contribute to society. This book provides the tools for working toward that goal. No need to be an engineer or a computer scientist to become a partner in crafting our digital landscape.

The book focuses on the developmental span, from preschool to high school, by using landscape design as a metaphor. In the early years, physical spaces are purposefully designed to promote positive development. For example, the carefully designed playground provides a safe space for creative exploration and motor skill development, and the multipurpose park in the elementary school years supports children to find their own interests and develop varied competences and a sense of mastery. As children grow there are few physical spaces purposefully designed to meet their developmental needs. Tweens and teens get together in malls to satisfy their need for social interactions, and they use the Internet, in all of its potential, to engage in their developmental quest. Part I of the book will explore in depth each of these developmental spaces.
But first, let's explore the concept of Positive Technological Development. PTD is a framework that provides an alternative to the deficit discourse about youth's experiences with technology. But most important, it is a tool for all of us to become designers of the digital landscape and make wise choices when working with children and technology throughout the developmental span. In the next section, I will present the PTD framework, and I will briefly introduce the two interdisciplinary theoretical traditions that inspired it: applied developmental sciences and learning sciences. But first, a personal story.

A PERSONAL QUEST

For over a decade and a half, when people asked me what my research was about, I responded: "Using technology to help children learn new things to become better people and make a better world." Most people were puzzled. "You mean teaching engineering so children can build bridges in the developing world?" "Are you using new software to increase math scores so children grow to become scientists and can make lifesaving discoveries?" My answer was maybe. Although those would certainly be good outcomes, my focus was different. I was helping children, and the adults in their lives, to use new technologies to create projects that they deeply cared about, so they could learn a little bit more about themselves and the personal and cultural values they cherished, so they could explore, in a developmentally appropriate way, three basic questions about being human: "Who are we?" "Where do we come from?" and "Where are we going?" These are the existential questions that, as human beings, we struggle with. At different stages in our lives, we respond to them in different ways, and we find some more challenging than others.

In the process of using technology, children were able to develop an understanding of how computers work, and they were learning powerful ideas from computer programming and applying computational thinking to other aspects of their lives. They were also exploring a varied set of content domains, depending on the chosen project. Some children became experts in dinosaurs so they could build robotic ones with jaws that could open and close. Others knew everything about the flying trapeze so they could engineer its mechanisms with a LEGO™ model. Some learned about ancient cultures, like the Aztecs, so they could create a simulation of their agricultural system, and a few others learned about Hassidic rabbis and Taoist masters so they could program interactive characters to tell inspirational stories about those traditions. Many children built virtual cities and developed their codes of conduct, exploring the challenges of
legal systems. Most children worked hard to learn how to program interactive objects, and others learned about organ transplantation so they could make a computer game to teach about organ donation. Over a decade and a half of research, there is amazing breadth and depth in the kinds of computer projects that children did. However, these children were doing something else than developing technological skills. They made connections, formed communities, explored their heritage, helped each other, and took confident steps into academic disciplines of their choice.

At the time, I did not have succinct words to describe my approach to working with children and new technologies. I was simply “using technology to help children learn new things to become better people and make a better world.” At first sight, all the pilot projects seemed different. Some were at schools; others, in after-school settings; a few, in museums; and many, in children’s hospitals. Some projects engaged four and five year olds, many preteens and teens, and other children in elementary school. Over the years I have used the same approach with a developmentally appropriate focus. The technologies I have designed and used are very different—robotic tools, virtual worlds, storytelling environments, and programming languages.

However, there is a “pattern that connects,” as Gregory Bateson put it when he wrote about the “pattern which connects the orchid to the primrose and the dolphin to the whale and all four to me” (1972). The connectedness was in my goal of “using technology to help children learn new things to become better people and make a better world.” But at the time, I needed a more sophisticated way to express it. Being an academic, and not an activist, I needed to develop a theoretical framework and conduct empirical studies to validate it. That is the beginning of the story of how the Positive Technological Development framework was born.

During my doctoral studies at the MIT Media Lab working with Seymour Papert and Mitchel Resnick, I was inspired by Constructionism, an approach that could help me address the first part of my stated goal: “using technology to help children learn new things.” Constructionism, and its focus on tools for helping children learn by doing, making, and programming, provided me with the intellectual and technological tools to tackle this challenge. However, this theoretical tradition lacked insight into the second part of the sentence; “to become better people and make a better world.” Years later, when I joined the faculty of the Eliot Pearson Department of Child Development at Tufts University I learned about applied developmental psychology and, most specifically, about positive youth development. I was then able to find a theoretical framework for the
second part of the sentence that summarizes my goal. Over the years, I coined a new term, *Positive Technological Development*: PTD is inspired by and integrates both theoretical traditions. The concept of PTD offers a lens to explain my own approach for “using technology to help children learn new things to become better people and make a better world.”

**THE NEED FOR POSITIVE TECHNOLOGICAL DEVELOPMENT**

To understand PTD as a framework, we first need to learn how the idea of using computers for teaching and learning came about. Based on their pedagogical goals and the design features of the software and hardware, Timothy Koschman (1996) categorizes educational technologies in four groups: computer-assisted instruction (CAI), intelligent tutoring systems (ITS), constructionist authoring environments, and tools for computer-supported collaborative learning (CSCL). While all technological learning environments developed within these four paradigms have the goal to enhance children’s cognitive development, they differ in their theoretical stance on *how* to reach that goal.

Borrowing from behaviorism, CAI takes a drill and practice approach. As examples, we can look at software packages that teach numbers and vocabulary by presenting children with simple exercises that are repeated over and over. Later on, with the early developments of cognitivism and artificial intelligence, intelligent tutoring systems started to emerge. Software was designed to iteratively adapt its computerized educational curriculum to match the ability of the student users. Both CAI and ITS systems were developed as stand-alone learning materials that may or may not require supervision from teachers or adults. The content was produced by the designer of the educational software, and the role of the children was to learn it.

In parallel to this growing trend in educational software, a new paradigm emerged: Constructionism. The focus shifted. The child became a producer, rather than a consumer of content. Constructionism advocated for technological tools that support children to become designers and creators of their own personally meaningful computer-based projects. For example, the Logo programming language allowed children to give commands to a turtle to draw on the screen (Papert, 1980). Constructionist tools are often open-ended and require that children learn how to program. While engaging with them, children develop computational literacy and technological fluency and learn to reflect on their own thinking.
and learning. As a strong inspiration for PTD, Constructionism will be described in depth in the next section.

With the development and growth of the Internet, a new paradigm emerged: computer-supported collaborative learning. The educational tools developed within the CSCL approach involve communication and collaboration among students and among students, parents, and teachers. The focus shifted from an individual student learning with the computer to communities of learners working together to build knowledge via the computer. Strongly grounded in the interdisciplinary field of the learning sciences, CSCL brought community aspects to Constructionism but did not always incorporate the constructionist mandate of learning by making and thinking by programming. However, both paradigms advocated the importance of developing computer literacy and technological fluency.

From an outsider's perspective, both terms—computer literacy and technological fluency—are similar. Both address what it means to successfully use technology for teaching and learning (Committee on Information Technology Literacy, 1999). However, there is a difference between these constructs. Computer literacy, defined by researchers such as Luehmann (1981, 2002), Hoffman and Blake (2003), and Livingstone (2004), is about developing instrumental skills to improve learning, productivity, and performance by mastering specific software applications for well-defined tasks, such as word processing and e-mail, and knowing the basic principles of how a computer works. Instead, the construct of technological fluency, first coined by Seymour Papert (1980) and researchers working within the constructionist paradigm, also involves mastering instrumental skills but focuses on enabling individuals to express themselves creatively with technology.

The concept of technological fluency (in contrast to mere literacy) makes use of the word fluency as the ability to use and apply technology as effortlessly and smoothly as people use language. For example, a technologically fluent person can use technology to write a story, make a drawing, model a complex simulation, or program a robotic creature (Papert & Resnick, 1995). As with learning a second language, fluency takes time to achieve and requires hard work and motivation.

To express ourselves through a poem, we first need to learn the alphabet. In the same spirit; to create a digital picture or program a robot, we first need to learn how to use the keyboard and navigate the interface. Thus we need computer literacy. However, although skills with specific applications are necessary, they are not sufficient for individuals to prosper in the Information Age, when new practices and dispositions are constantly needed because applications change rapidly and emerging tools require new skills.
While learning the alphabet is required to write a poem, it is not enough. In the same spirit, knowing how to use software packages is not enough to become technologically fluent. As suggested by the Committee on Information Technology Literacy in 1999, the "skills"-approach lacks "staying power." Computer literacy is a fundamental stepping-stone toward technological fluency. However, this book strongly argues that technological fluency is not enough if our goal is "using technology to help children learn new things to become better people and make a better world."

Young people use computers to communicate with friends, to listen to and exchange music, to meet new people, to share stories with relatives, to organize civic protests, to shop for clothing, to engage in e-mail therapy, and to find romantic partners, among many other things (Buckingham & Willett, 2006; Ito et al., 2009; Subrahmanyam & Greenfield, 2008). While all of these activities might be facilitated by developing computer literacy and technological fluency, the "life skill set" needed goes beyond them. Even more, the ability to use technology meaningfully rests not only on skills but also on a variety of psychosocial, cultural, and emotional factors (Coffin & McIntyre, 1999).

The Positive Technological Development framework attempts to provide a model for how development can be supported by the use of technologies. Developing competence and confidence in the use of computers, as the computer literacy and technological fluency movements propose, is important. PTD builds on this work. But it also brings forward the need for youth to develop character traits that will help them use technology safely to communicate and connect with other people and to envision the possibility of making a better world through the use of computers (Bers, 2007b; Ribble, Bailey, & Ross, 2004). PTD is not only about children becoming programmers, engineers, or active in social networks; it is also about helping them find meaning and purpose in life. PTD is in alignment with current Information and Communication Technology Standards, such as the Framework for 21st Century Learning, which emphasize the integration of both technical skills and an understanding of the ethical and social issues surrounding the use of such new technologies (Partnership for 21st Century Skills, 2007).

As a theoretical framework, PTD is a natural extension of the computer literacy and the technological fluency movements that have influenced the world of education since the 1970s but adds psychosocial, civic, and ethical components to the cognitive ones (Bers, 2008a, 2010b). The focus is on positive process: what are children already doing well with the technology? PTD builds on the tradition of positive youth development (Benson, Scales, Hamilton, & Sesma, 2006; Damon, 2004), which looks
at pathways of thriving individuals in the first two decades of their lives. The underlying assumption is that youth are already using technologies in many positive ways. Our job is to design digital spaces so they can use them in better ways, not only to socialize or learn new things but also to construct a strong sense of identity and promote positive changes in their own selves and society. Our digital landscapes must support children in exploring the developmental milestones for healthy and productive psychosocial growth at each stage.

PTD takes an interdisciplinary approach that integrates ideas from the fields of computer-mediated communication, computer-supported collaborative learning, and constructionist learning with technology, with research in applied developmental science and positive youth development. PTD examines the developmental tasks of a child growing up in our digital era and provides a model for developing and evaluating technology-rich youth programs. The explicit end goal of PTD programs is to mentor children in the positive uses of technology to lead more fulfilling lives—not only to teach children to use technology to accomplish a task, such as the computer literacy movement would have claimed, or solely to help them to design and program their own meaningfully interactive projects, like those who seek technological fluency.

THEORETICAL MODEL

The Positive Technological Development framework involves three components: individual assets, technology-mediated behaviors or activities, and applied practice. The use of the term positive connotes the goal of engaging a young person in a good, healthy, and productive developmental trajectory (i.e., development toward improvement of one's self and society).

Individual assets are useful and valuable qualities of a child that provide an advantage or resource for achieving positive outcomes. The Search Institute defines developmental assets as "the relationships, opportunities, and personal qualities that young people need to avoid risks and to thrive." Lerner et al. (2005) frame the various developmental assets into a model of six "C's," conceived as pathways to promote thriving and healthy communities: competence (cognitive abilities and behavioral dispositions), connection (positive bonds with people and institutions), character (integrity and moral centeredness), confidence (positive self-regard, a sense of self-efficacy), caring (human values, empathy, and a sense of social justice), and contribution (orientation to contribute to
civil society). The PTD framework extends these assets to the technological domain. Thus, the individual assets or six C's presented are

- **Competence.** An ability to use technology, to create or design projects to accomplish a goal, and to debug projects and problem-solve.
- **Confidence.** A sense of oneself as someone who can act and learn to act successfully in a technology-rich environment, find help when necessary, and have perseverance over technical difficulty.
- **Character.** A moral compass that guides the use of technology in responsible and safe ways and the ability to express one's values using technology.
- **Caring.** A sense of compassion and willingness to respond to the needs and concerns of other individuals, to assist others with technical difficulties, and to use technology as a means to help others.
- **Connection.** Positive bonds and relationships established and maintained by the use of technology.
- **Contribution.** An orientation to contribute to society by using and proposing technologies to solve community/social problems.

The first three C's (competence, confidence, and character) get into the intrapersonal domain, while the other three assets (caring, connection, and contribution) are about the interpersonal domain and refer to individuals as members of a community. Both intrapersonal and interpersonal assets can be expressed, developed, and promoted through the use of new technologies. Technologies provide a platform for people to engage in different activities and behaviors in response to the available design features of the technologies. For example, if the technology provides a writing tool, the user will be able to write a poem or a letter. This is obvious, but it is a key conceptual element to keep in mind; particularly as the desired behaviors supported by the technologies become more complex.

The PTD activities that might lead to positive outcomes for children are presented as a second set of C's that refer to technology-mediated behaviors. These are

- **Content creation.** The opportunity to engage users in computer programming or computer applications that engage them in working with text, video, audio, graphics, and animations. In the process of creating content, children also develop technological fluency. There is a strong relationship between content creation and competence. A sense of competence in the technological domain is displayed by the ability to
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use diverse computer applications to create content, to debug projects, and to problem-solve.

- **Creativity.** The ability to transcend traditional ideas, rules, patterns, relationships, or interpretations and to create and imagine original new ideas, forms, and methods for using new technologies. Most constructionist tools that support content creation also support creativity. There is a strong relationship between creativity and a sense of confidence, which is further promoted when one can use technology in creative ways.

- **Choices of conduct.** The opportunity of making choices about our behaviors, explore “what if” situations, take action in the digital world, and experience its consequences. There is a relationship between choices of conduct and character. The moral compass that guides the use of technology in responsible ways is built upon having choices of conduct and the freedom to evaluate consequences of different “what if” situations and develop a sense of character.

- **Communication.** The process of interchanging thoughts, opinions, or information by using technologies. When the mechanisms for supporting communication are established, it is possible to envision ways of using technology to connect with others. New developments in social media promote new ways of communication.

- **Collaboration.** The opportunity to work with others and to willingly cooperate toward a shared task. There is a strong bidirectional relationship between collaboration and caring. In order to collaborate we need to care about each other’s ideas and needs. The more we establish and maintain positive bonds and relationships, the more we are also able to better collaborate. Most technologies that support collaboration also provide ways for people to connect and communicate.

- **Community building.** An active stance toward using technology to enhance the community and the quality of relationships among the people of that community. Engaging in community building has a strong relationship with an orientation to contribute to society by using and inventing new digital tools to solve social problems.

The above paragraphs present two different sets of six C’s. The first focuses on both intrapersonal and interpersonal assets that can be developed through the use of technology. The second set refers to behaviors that users can engage in through the design affordances of the technologies. However, both our potential for engaging in a developmental and learning process that can promote individual assets and the potential of the design features of the technologies to support certain kinds of
activities are mediated by the context in which those technologies are used—the learning culture, rituals, routines, values, or "ways of doing things." Thus, the third element of the PTD framework is the concept of situated practice. It can be a classroom, a hospital; a museum, or the open field of the digital landscape. Figure 1.1 summarizes all of these but leaves blank the boxes for the Context of Practice, as it cannot be prescribed for all but, rather, should be specific to each particular context. As the book progresses, I will provide different examples from my various research projects.

This section provided a first introduction to the PTD framework. Part II of the book will revisit it in more depth by focusing on each of the pairs of C's and by providing specific contexts of practice. But before that, we will explore the two bodies of work that have inspired the PTD approach. The first one, Constructionism, developed by Seymour Papert, a pioneer in the field of educational technologies, focuses on children’s learning through and about computers. The second one, positive youth development, grew out of research in applied developmental science and pays attention to the overall development of young people as positive contributors to their own growth and society.
CONSTRUCTIONISM: LEARNING BY MAKING, THINKING BY PROGRAMMING

It would be particularly oxymoronic to convey the idea of constructionism through a definition since, after all, constructionism boils down to demanding that everything be understood by being constructed.

—Seymour Papert

Constructionism is a theory of learning with and about computers developed by Seymour Papert in the late 1970s (Papert, 1980). Papert, a mathematician, an expert in artificial intelligence, and a collaborator of Jean Piaget, pioneered the idea that computers could become wonderful tools for helping children learn new things and think in new ways. At the time, given that computers were big expensive machines that required advanced mathematical skills, it wasn't so clear that Papert's vision would one day be realized. However, in 1967, based at the MIT Artificial Intelligence Lab, he led the team that developed Logo, the first programming language to immerse children in the joy of math land. Logo, a child-friendly version of the programming language Lisp, allowed children to manipulate a turtle on the computer screen to follow their instructions and draw geometrical shapes. In the process, they explored in a fun way concepts of geometry, variables, and recursion while thinking about their own approaches and strategies for learning.

The widespread use of Logo began with the advancement of personal computers during the late 1970s. Papert's ideas became widespread in the world of education in 1980 with the publication of his pioneering book Mindstorms: Children, Computers, and Powerful Ideas. Since then, many different versions of Logo have developed. It has been translated into several languages and is widely used all over the world. Logo initiated an era in which Piaget's constructivist theories were applied to understand how children could best use computers to learn. To remind readers about the Piagetian roots of his philosophy, Papert coined the term Constructionism, replacing constructivism. He wanted to stress the importance of constructions in the world, most specifically on the computer screen, to support the construction of knowledge in our heads. Constructionism states that children learn better when making their own projects, constructing their own ideas, and designing their own solutions to problems. It shows that computers are powerful tools to support and augment all of those activities by providing tools for children to playfully design their own "objects to think with" (Bers, 2008a, 2008b; Kafai & Resnick, 1996).

Following on the Logo tradition, Constructionism asserts the need of authoring systems and programming environments, both software and hardware, to invite children to become designers and programmers of
personally and epistemologically meaningful projects (Resnick, Martín, Sargent, & Silverman, 1996). While Logo grew from Papert's love of mathematics, other constructionist programming systems engage children in learning about complex systems (Resnick, 1994), encourage peer learning and collaboration in virtual communities (Bruckman, 1998), promote storytelling skills and the exploration of cultural identity and moral values (Bers, 1998, 2001), and engage children in engineering by making their own robots (Bers, 2008a, 2010a; Bers, Ponte, Juelich, Viera, & Schenker, 2002; Martin, Mikhak, Resnick, Silverman, & Berg, 2000; Resnick, et al., 1996; Rogers & Portsmore, 2004).

Most recently, the Scratch programming environment was developed by Mitchel Resnick and his Lifelong Kindergarten group at the MIT Media Lab. Scratch makes it easy to create interactive stories, games, and simulations by snapping together digital programming elements or blocks, as one would snap together LEGO bricks or puzzle pieces. These projects can then be shared with an active worldwide online community. In the process of creating and sharing projects, young people learn core computational concepts while also learning important strategies for designing, problem solving, and collaborating (Brennan, Monroy-Hernandez, & Resnick, 2010; Resnick et al., 2009).

All constructionist programming environments, from Logo to Scratch, are explicitly designed to situate children in the role of creators of interactive content, as opposed to consumers of information. They all engage children in learning by playing, by exploring, by discovering. And they all encourage children to engage in reflection and to think about their own thinking. Constructionism understands the programming of a computer as a powerful way to gain new insights into how the mind works and learns (Papert, 1993). And most important, it envisions new technologies as powerful carriers of new ideas and as agents of educational change.

Constructionism informs PTD by bringing to the foreground the C's of content creation and creativity and their strong relationship to competence and confidence. The next section will introduce the second body of theoretical work that inspired the PTD framework, positive youth development.

**POSITIVE YOUTH DEVELOPMENT: EMPHASIZING STRENGTHS AND ASSETS**

If all teens are thought of as assets in the making, rather than problems waiting to happen, then not only our own families but also society as a whole could be transformed.

—Richard Lerner (2007, p. 213)
Childhood is a relatively new concept. Philippe Aries (1960), by studying the works of art of the medieval period, shows how in those early paintings there are no children, only babies, big adults, and little adults—whom we would call children today. The musculature, dress, expressions, body proportions, and mannerisms are all adult, but in small size. In the medieval world a seven year old was already an adult who would become a worker in the field—or factories during the Industrial Revolution. Aries illuminates how the concept of childhood, as we understand it today, did not always exist in history. It slowly grew into existence in the upper classes in the 16th and 17th centuries, solidified itself in the 18th-century upper classes, and was accepted in the 20th century.

Once the idea of childhood began to develop as a unique life stage, it solidified by taking both an idealist and a deficit model. Children were positioned either as fragile beings who needed to be safeguarded and reformed (Aries, 1960) or as sinful beings whose will had to be broken by flogging and denial (Stone, 1977). Interest in the concept of children as developing individuals began early in the 20th century and started by focusing on abnormal behavior.

Richard Lerner (2007), among other researchers, has shown how in the field of adolescent development, this negative view has influenced decades of research and millions of dollars invested in programs aimed at fixing and preventing problems. Instead of looking at the positive potential, the focus has gone toward the negative possibilities. For example, the term adolescent shows this implicit deficit model. In Spanish, my native tongue, it becomes clear. Adolecer means "to suffer." By extension, an adolescent is the one who suffers, the one who needs to be helped, the one who is in trouble.

However, in the last decade a new movement started to emerge that focuses on what teenagers are doing right, how they are striving, how they are contributing to society. Using the umbrella term positive youth development (PYD), a group of applied developmental scientists started to identify factors that describe teenagers who are not at risk, but, rather, are doing well in life, and to agree on positive characteristics that all young people should possess. Researchers in developmental science (e.g., Damon, 2004; King & Furrow, 2004; Larson, 2000; Scales, Benson, & Mannes, 2006; Theokas & Lerner, 2006) contrast the positive youth development movement as fostering and engendering healthy behaviors with the prevention model that targets at-risk youth before these behaviors even appear.

In his book The Good Teen, Richard Lerner (2007) proposes a call for action:
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We should think—as a society and as parents—about how to promote healthy, positive, admirable, and productive behaviors in our young people. And we need to find new vocabulary to talk about our young people. Let’s name the good things they can and should do. Let’s measure these good things. Let’s then find ways to make those good things more likely to be present in their lives.

Above, I described how researchers in the area of PYD use six C’s to refer to these developmental assets: competence (cognitive abilities and behavioral dispositions for being healthy), connection (positive bonds with people and institutions), character (integrity and moral centeredness), confidence (positive self-regard, a sense of self-efficacy), caring (human values, empathy, and a sense of social justice), and contribution (orientation to contribute to civil society [Lerner 2002; Lerner & Barton, 2000; Lerner et al., 2005]). Taken together, these characteristics reflect a growing consensus about what is involved in healthy and positive development among people in the first two decades of their lives and the promotion of healthy communities (Scales, Benson, Leffert, & Blyth, 2000).

Research on positive youth development looks at cognitive, personal, social, emotional, spiritual, moral, and civic characteristics of young people in an integrated way. The goal is to understand what goes right in the lives of young people and what could be even better (Lerner, Wertlieb, & Jacobs, 2003). The use of the term positive reinforces PYD’s emphasis on the promotion of valued characteristics (i.e., developmental assets) that might lead a young person toward a good developmental trajectory (i.e., development toward improvement of one’s self and society).

This positive approach provides a framework for implementing and evaluating psychoeducational programs and policies that emphasize the strengths and assets of young people, instead of focusing on diminishing or preventing risk-taking behaviors (e.g., Damon, 2004; King & Furrow, 2004; Larson, 2000; Scales et al., 2006; Theokas & Lerner, 2006). However, most of the youth programs conceived within this model have not attended to the role of new technologies in young people’s lives or have limited their use for information delivery or retrieval (Bers, 2006). They have not considered the positive potential of our digital landscape. This omission is particularly striking given that, in today’s world, new technologies play an important role in different domains of youngsters lives, such as education, entertainment, socialization, and communication.

The PTD framework hopes to bridge this gap. As shown earlier, it borrows the six C’s of PYD and makes them relevant to our digital world. However, instead of only emphasizing developmental assets, it also focuses on behaviors. Technologies are tools that empower individuals to
do things, to engage in activities, to act. Therefore, PTD adds a second set of C’s focusing on positive behaviors supported by the technology. Our actions in the world change who we are, and who we are changes our actions in the world. There is a bidirectional relationship between developmental assets and technology-supported behaviors. These are mediated by the context provided by the culture, rituals, and values of the environment. The use of technology to achieve certain goals, to act in the world, to make things, doesn’t happen in a vacuum but, rather, within a particular sociocultural micro- and macrocultural context.

The goal of PTD is to make the best use of technologies to support children in becoming active agents in their own development and in contributing to society. PTD is both a theoretical framework and a proposed pathway for promoting the best uses of technologies for children and youth in different contexts. Anywhere we can find a digital landscape, PTD might be useful. The next section of the book takes a developmental perspective to visit these digital landscapes.