

Positive Technological Environment Checklist

What is the Checklist?

The Positive Technological Environment Checklist is based on the theoretical foundation of Positive Technological Development (PTD). The PTD framework guides the development, implementation and evaluation of educational programs that use new technologies to promote learning as an aspect of positive youth development. The PTD framework is a natural extension of the computer literacy and the technological fluency movements that have influenced the world of education but adds psychosocial and ethical components to the cognitive ones. From a theoretical perspective, PTD is an interdisciplinary approach that integrates ideas from the fields of computer-mediated communication, computer-supported collaborative learning, and the Constructionist theory of learning developed by Seymour Papert (1993), and views them in light of research in applied development science and positive youth development.

As a theoretical framework, PTD proposes six positive behaviors (six C's) that should be supported by educational programs that use new technologies and innovations, such as the Eliot- Pearson Maker Space. These behaviors are: communication, collaboration, community building, content creation, creativity, and choice of conduct.

The PTE Checklist is an observational checklist to evaluate the Positive Technological Environment, or the factors in the Coding Playground that promote children's behaviors of PTD. This rubric measures factors both in the teacher's behaviors and in the classroom environment.

More information about PTD can be found in Marina Umaschi Bers' book *Designing Digital Experiences for Positive Youth Development: From Playpen to Playground* (Bers, 2012) and *Coding as a Playground: Programming and Computational Thinking in the Early Childhood Classroom* (Bers, 2018).

Instructions

This is an observational checklist to be completed by an in-person, observing researcher. The observation should be completed over the course of a single session or lesson.

Rating:

For PTD construct, the checklist has two questions, one observing the teacher behavior and one observing the environment. Each question consists of five items to be scored as present/absent. Please read all questions carefully when observing behaviors. For all items except Choices of Conduct [Teacher], the first item is negatively coded. If a question is not applicable, mark the behavior as absent.

Scoring:

Beneath each question is a space to total the score for each item. On the final page, there is a space to summarize the overall scores for each item.

Citations

This rubric is a revised version of the original PTD Checklist. When citing this rubric, please cite the following:

Bers, M., Doyle-Lynch, A., & Chau, C. (2012). Positive technological development: The multifaceted nature of youth technology use toward improving self and society. In C. C. Ching & B. J. Foley (Eds.), *Constructing the self in a digital world* (pp. 110–136). Cambridge University Press. <https://doi.org/10.1017/CBO9781139027656.007>

Levinson, T. (2022). Quantifying the Coding Playground: A Pilot Study Creating and Attempting to Validate a Rubric for Positive Technological Development. (Masters Theses)

Strawhacker, A., & Bers, M. U. (2018). Promoting Positive Technological Development in a Kindergarten Makerspace: A Qualitative Case Study. *European Journal of STEM Education*, 3(3). <https://doi.org/10.20897/ejsteme/3869>

PTE Checklist

Observer _____ **Classroom** _____ **Date** _____

Lesson _____ **Study** _____ **Teacher** _____

Summary Scoring

Collaboration: Teacher _____	Collaboration: Environment _____	Sum Collaboration: _____
Communication: Teacher _____	Communication: Environment _____	Sum Communication: _____
Content Creation: Teacher _____	Content Creation: Environment _____	Sum Content Creation: _____
Community Building: Teacher _____	Community Building: Environment _____	Sum Community Building: _____
Creativity: Teacher _____	Creativity: Environment _____	Sum Creativity: _____
Choices of Conduct: Teacher _____	Choices of Conduct: Environment _____	Sum Choices of Conduct: _____
Total Teacher Score: _____	Total Environment Score: _____	



Collaboration

Teacher definition: the extent to which the teacher's actions scaffold children working together on shared projects or ideas

Environment definition: The extent to which the workspace supports children working together on shared projects or ideas

	Absent	Present
Teacher gives projects designed to be completed individually	1	0
Teacher encourages students to ask each other questions or for help	0	1
Teacher assigns students to work in groups	0	1
Teacher puts students in group and scaffolds group work with discussion of group roles	0	1
Sum (Collaboration: Teacher)		

	Absent	Present
Children sit in fixed seating arrangements with individual workspaces	1	0
Children sit at shared tables	0	1
Children's workspaces are large and shared.	0	1
Workspaces are large enough for multiple children, and children can move between workspaces	0	1
Sum (Collaboration: Environment)		



Communication

Teacher definition: The extent to which the teacher's actions scaffold conversations between children

Environment definition: The extent to which the environment supports conversations between children

	Absent	Present
Teacher encourages silent work	1	0
Teacher asks children questions	0	1
Teacher encourages discussion between students	0	1
Teacher scaffolds discussion between students	0	1
Sum (Communication: Teacher)		

	Absent	Present
Children are seated individually in rows facing forward	1	0
Children are seated facing each other	0	1
Children can walk freely around the room to talk to others	0	1
Children have flexible seating and can move their workspace around the room	0	1
Sum (Communication: Environment)		



Content Creation

Content Creation

Teacher definition: the extent to which the teacher scaffolds the creation of innovative projects

Environment definition: the extent to which the classroom supports children in creating innovative projects

	Absent	Present
No lesson activities include creative component (i.e. puzzle solving only)	1	0
Teacher provides sample project for activity	0	1
Teacher encourages children to deviating from sample project	0	1
Teacher provides open-ended prompts for creative projects	0	1

Sum (Content Creation: Teacher)

	Absent	Present
No tangible materials are available to children during observed lesson	1	0
Children are supplied the materials or tools needed to complete the prompted activity	0	1
A broad range of materials or tools are available to children upon request	0	1
A broad range of materials or tools are available and accessible to children without assistance (ex. a craft station at child height)	0	1

Sum (Content Creation: Environment)



Community Building

Community Building

Teacher definition: the extent to which the teacher scaffolds children's taking part in whole-classroom learning activities

Environment definition: the extent to which the design of the classroom supports whole-classroom learning activities and class culture

	Absent	Present
Lessons include only individual work and no group activities	1	0
Observed lesson includes group activity, such as read-aloud, song, or game	0	1
Teacher prompts children to share work with class	0	1
Teacher scaffolds children to engage in the process of sharing, receiving, and incorporating feedback on projects	0	1

Sum (Community Building: Teacher)

	Absent	Present
Children work only at workstations.	1	0
There is a space where work can be displayed.	0	1
Children can move between workstations.	0	1
There is a learning space outside of children's typical workspaces for children to take part in whole-class activities, such as a large carpet.	0	1

Sum (Community Building: Environment)



Creativity

Creativity

Teacher definition: the extent to which the teacher scaffolds the use of tools and materials in new and innovative ways

Environment definition: the extent to which the environment supports the use of tools or materials in new or innovative ways

	<u>Absent</u>	<u>Present</u>
Teacher assigns activities with a correct answer or solution	1	0
Teacher encourages children to try new tools or materials	0	1
Teacher prompts children to use material or tool in new way	0	1
Teacher scaffolds discussion on using multiple approaches (i.e. "This program is longer but this program has more characters. I love how both tell wonderful stories about our classroom.")	0	1
Sum (Creativity: Teacher)		_____

	<u>Absent</u>	<u>Present</u>
Only the materials or tools required to complete the prompted activity are available to children.	1	0
Tools and materials children have not been taught yet are available to children.	0	1
Projects featuring multiple and varied uses of tools and materials are on display in the classroom.	0	1
Tools and materials with unspecified uses are available to children	0	1
Sum (Creativity: Environment)		_____



Choices of Conduct

Choices of Conduct

Teacher definition: the extent to which the teacher scaffolds children is making decisions that are positive, safe, and kind when presented with scenarios involving potential conflict

Environment definition: the extent to which the environment supports children in making positive, safe, and kind choices when presented with scenarios involving potential conflict

	<u>Absent</u>	<u>Present</u>
Teacher reminds children of classroom rules or expectations	0	1
Teacher provides children with materials that are breakable or delicate	0	1
Teacher labels positive and negative behaviors and describes impact of behavior when giving feedback	0	1
Teacher scaffolds discussion of process of making positive choices	0	1
Sum (Choices of Conduct: Teacher)		_____

	<u>Absent</u>	<u>Present</u>
Classroom rules are posted in the classroom in a format that may not be accessible to the children (i.e. only written for a class of non-readers).	1	0
Classroom rules are posted in the classroom in an accessible format to the children (i.e. written in accessible language or accompanied by pictures).	0	1
Decision flow-charts (i.e. “options for when you are mad” anchor chart) are posted in an accessible format	0	1
There is an area of the room dedicated to positive decision making (i.e. a calm-down corner) with materials and accessible instructions for students to make positive choices available to children.	0	1
Sum (Choices of Conduct: Environment)		_____