

CD 114: Children and New Technologies

Spring, 2016

Wednesday 9-11:30 am

Eliot-Pearson Department of Child Study and Human Development

Prof. Marina Bers

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Office hours: By appointment

Course Description

Exploration of impact of computer programming, virtual communities, computer games, social media and other digital technologies in the lives of young people. Interdisciplinary course with a focus on developmental, learning and design theories. Application of the theory to the design of technology-rich programs and experiences for children. Attention to different settings such as home, school, after school, hospitals and museums.

Course Requirements

- **Readings.** All students are expected to do all the readings
- **Class participation.** All students are expected to participate in discussions of the readings in class. Readings will be on-line or distributed in class.
- **Class presentation.** All students are expected to present in class the readings for one of the sessions.
- **Pecha Kucha** presentation. This is an individual presentation format in which content can be easily, efficiently and informally shown. Each student will present 20 images for 20 seconds apiece, for a total time of 6 minutes, 40 seconds¹. The presentation should focus on the student's personal relationship with technologies.
- **Mid-term assignment (in groups)** In groups, students will develop a proposal and business plan for a technology of choice for young children. They will use the PTD framework, as well as other theoretical frameworks read in class to back their proposals. Please e-mail the assignment to Prof. Bers and bring a hard copy to class.
- **Project presentation (in groups)** Students will do a final presentation in class. Students will also engage in peer-review of the presentation by using a rubric developed that will guide them to provide constructive feedback to peers.
- **Video presentation (in groups)** Incorporating the feedback received during the final presentation, students will develop a 2 minute video promoting their designed products and highlighting its educational value. Final videos will be shared during the last day of class.

¹ The Pecha Kucha presentation format was devised in 2003 by two architects, Astrid Klein and Mark Dytham in Tokyo, who sought to give young designers a venue to meet, network, and show their work. They devised a format that kept presentations very concise in order to encourage audience attention and increase the number of presenters within the course of one night. They took the name Pecha Kucha from a Japanese term for the sound of conversation ("chit-chat"). Klein and Dytham's event, called Pecha Kucha Night, has spread virally around the world. More than 170 cities now host such events. Businesses use the Pecha Kucha format, especially for internal presentations, primarily as a device to limit the length of presentations, force presenters to focus their messages and reduce interruptions.

Tentative Schedule

Day 1 Jan 27 : Introduction

Introduction to educational technology and hands-on play through edtech applications

Guest: Amanda Sullivan

Day 2 Feb 3: The Positive Technological Development framework: the whole child approach

This week Prof. Bers will introduce the course materials and goals, herself and the research she is directing at the [DevTech's research group](#). There will also be an introduction to the theoretical frameworks for the class.

In class activity: Playpens and playgrounds exercise using the [PTD observation protocol](#)

Readings:

Turkle, S. (1984) [The SecondSelf: Computers and the Human Spirit](#), Introduction ([PDF version here](#))

Bers, M (2012) [Designing digital experiences for positive youth development: From playpen to playground](#), Oxford University Press. Introduction and Part I

([PDF version of Introduction here](#))

([PDF version of Part 1.1 here](#))

([PDF version of Part 1.2 here](#))

([PDF version of Part 1.3 here](#))

Day 3 Feb 10: The constructionist framework: learning about learning through computer programming

This week we will discuss the Constructionist approach to learning with and about technology. Students will present the readings in class, followed by a discussion

In class activity: Resnick's [TEDtalk](#) and [Scratch](https://scratch.mit.edu/)

Readings

Papert, S. (1999, March 29). [Papert on Piaget](#). *Time Magazine*, special issue on "The Century's Greatest Minds," 105.

Resnick, Papert, S & Harel, I (1991) [Situating Constructionism](#). The first chapter in *Constructionism*, edited by Idit Harel and Seymour Papert (Ablex Publishing Corporation)

Resnick, M (2007) [Sowing the Seeds for a More Creative Society](#) ISTE (International Society for Technology in Education)

Day 4 Feb 17: Programming in Early Childhood

In this session students will be exposed to the two technologies for early childhood developed by the DevTech research group

In class activity: [ScratchJr](#) and [KIBO](#)

Guest : Kaitlyn Leidl

Day 6 Feb 24: Technologies of the Self

In this session each student will present his or her Pecha Kucha.

Assignment due: Presentation of Pecha Kuchas

Day 7 March 2: Ed Tech out in the world

In this session, students will analyze different Kickstarter campaigns developed in the last 3 years with a focus on educational technologies. Each pair will share with the class their findings. Prof. Bers will also teach how to develop a business canvas to start thinking about the potential market and product development needs for their projects. Students will use this tool to think about the products they are analyzing.

In class activity: Business Canvas

Day 8 March 9: Developing a product

In class, students will form their final groups to start working on their prototype ideas.

Day 9 March 16: Visit to Maker Space I

During this visit students will learn the tools and processes of the Maker Space to start crafting the prototypes

Day 10 March 30: Visit to the Maker Space II

Work on the prototype will continue

Day 12 April 6: Testing in school I

Students will take their prototype to the Eliot Pearson Children's School for a first round of testing

Day 13 April 13: Testing in school II

Students will take their prototype to the Eliot Pearson Children's School for a second round of testing

Day 14 April 20: Project presentation materials

Students will do a final presentation in class. Students will also engage in peer-review of the presentation by using a rubric developed that will guide them to provide constructive feedback to peers.

Revising the business canvas

Preparing a PR campaign

Day 15 April 27: Final presentations

Students will give a final presentation. Paper will be due the week after so students can incorporate feedback.