Kathy Hirsh-Pasek
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December 6, 2022

Enter virtual reality and the metaverse:

Virtual reality is the representation of possible worlds and possible selves, with the aim of making them appear as real as possible - ideally, by creating a subjective sense of "presence" and full immersion in the user.

— Thomas Metzinger —

AZ QUOTES

Or to steal from Mark Zuckerberg,

I believe the metaverse is the next chapter for the internet

The metaverse is all over the news!

October 9, 2022 NYT

The New York Times

This Is Life in the Metaverse

Every hour of the day and night with the gamers, parents, insomniacs, preteens and aspiring comedians who are the earliest adopters of the immersive, three-dimensional internet that Mark Zuckerberg has bet the future of his company on.

And Meta is betting on its future with a 6-Billion dollar investment….

The implications for education are enormous as students could take virtual fieldtrips…
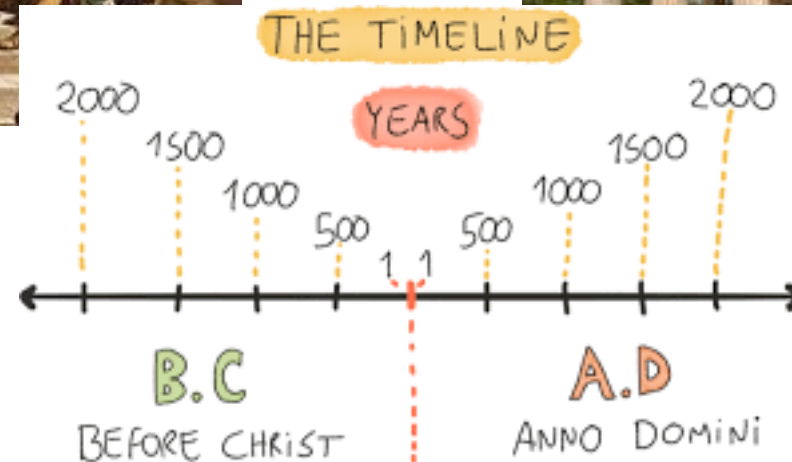
Inside the human body

Or to visit the time of the dinosaurs

Even more so, imagine this scenario from a classroom in the future.

How can we know about life in 500 BC if all we see is the ruins of today?

Four things to think about as we brave this future
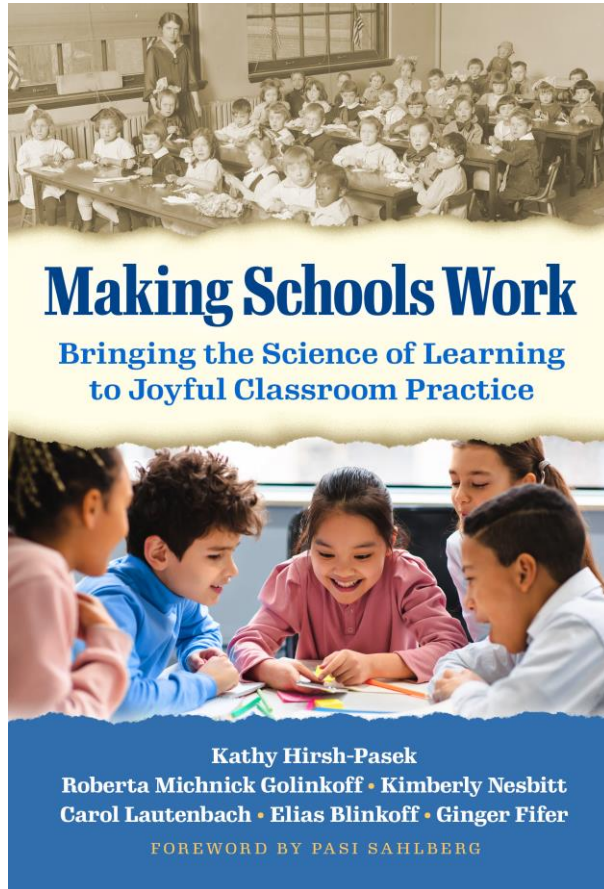
How do you build the metaverse so that it optimizes education?

How do you build the metaverse so that it is equitably available?

How do you build the metaverse so that it is usable?

How do you build the metaverse so that it is safe?

On building a metaverse that optimizes education

Making Schools Work
Bringing the Science of Learning to Joyful Classroom Practice

Kathy Hirsh-Pasek
Roberta Michnick Golinkoff • Kimberly Nesbitt
Carol Lautenbach • Elias Blinkoff • Ginger Fifer
FOREWORD BY PASI SAHLBERG

Journal of Children and Media

How educational are "educational" apps for young children? App store content analysis using the Four Pillars of Learning framework

Marisa Meyer, Jennifer M. Zosh, Caroline McLaren, Michael Robb, Harlan McCafferty, Roberta Michnick Golinkoff, Kathy Hirsh-Pasek & Jenny Radesky
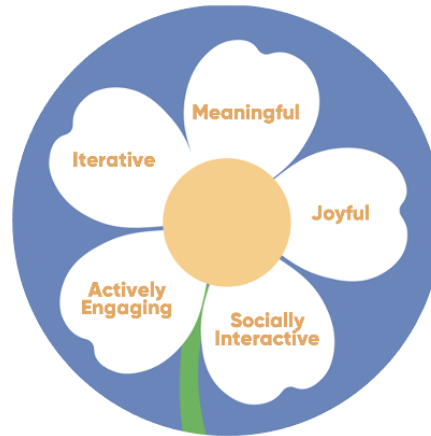
Journal of Children and Media

ISSN: 1748-2798 (Print) 1748-2801 (Online) Journal homepage: http://www.tandfonline.com/loi/rchm20

Developer meets developmentalist: improving industry–research partnerships in children's educational technology

Rebecca A. Dore, Marcia Shirilla, Brian N. Verdine, Laura Zimmermann, Roberta Michnick Golinkoff & Kathy Hirsh-Pasek

Putting Education in "Educational" Apps:
Lessons From the Science of Learning

Psychological Science in the Public Interest
2015, Vol. 16(1) 3–34
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DOI: 10.1177/1529100615569721
pspi.sagepub.com

Kathy Hirsh-Pasek[1], Jennifer M. Zosh[2], Roberta Michnick Golinkoff[3], James H. Gray[4], Michael B. Robb[5], and Jordy Kaufman[6]

An equation for achieving that definition of success

		Collaboration	Communication	Content	Critical Thinking	Creative Innovation	Confidence
Level 4		Building it together	Tell a joint story	Expertise	Evidence	Vision	Dare to fail
Level 3		Back and forth	Dialogue	Making connections	Opinions	Voice	Calculated risks
Level 2		Side by side	Show and tell	Wide breadth / Shallow understanding	Truths differ	Means-end	Where do I stand?
Level 1		On my own	Raw emotion	Early learning / Situation specific	Seeing is believing	Experimentation	Barrel on

Cultural values   +   The science of *how* children learn   +   The science of *what* children learn

We optimize education by using principles of how (playful learning) and *what* (6Cs) children learn

PLAYFUL LEARNING

ACTIVE _✓_____ PASSIVE

ENGAGING ___✓_____ DISTRACTING

MEANINGFUL ___✓___ DISCONNECTED

SOCIAL __✓_____ SOLO

ITERATIVE __✓_____ UNCHANGED

JOYFUL __✓_____ BORING

+ a learning goal

The 6Cs

		Collaboration	Communication	Content	Critical Thinking	Creative Innovation	Confidence
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BECOMING BRILLIANT

What Science Tells Us About Raising Successful Children

ROBERTA MICHNICK GOLINKOFF, PhD and KATHY HIRSH-PASEK, PhD

In the condition of "educational" apps

The tech got ahead of the educators and ahead of the science.

We need to do better with the metaverse

On building a metaverse that ensures equitable access

To date,

- The infrastructure is just being built
- The infrastructure has to reach all neighborhoods and communities
- Access to the infrastructure has to be affordable

And eventually, access has to be available in school settings or community settings

On building a metaverse that optimizes usability

The goggles are currently clunky

- But that is rapidly changing…..

And schools are totally unready for white board classrooms or projectors or…

Perhaps we should start with an Imax community setting where classes could go for virtual fieldtrips

ThinkReality A3 Smart Glasses

Meta Quest Pro

On safety

- Will there be regulations to prevent student from entering possible worlds that harness hate and bigotry?
- Will there be some way to keep the metaverse safe from intruders?

We are just at the beginning…..

REPORT

A whole new world: Education meets the metaverse

Kathy Hirsh-Pasek, Jennifer M. Zosh, Helen Shwe Hadani, Roberta Michnick Golinkoff, Kevin Clark, Chip Donohue, and Ellen Wartella ·
Monday, February 14, 2022

To date – the metaverse is not designed with educators, is not equitable, is not usable and is not prevalent enough to be unsafe

We need to have these discussions NOW, so that we build the metaverse with intentionality and reap what is possible from this exciting technological advance

Brookings-Yidan Prize Series:
The Future of Education in the 21st Century