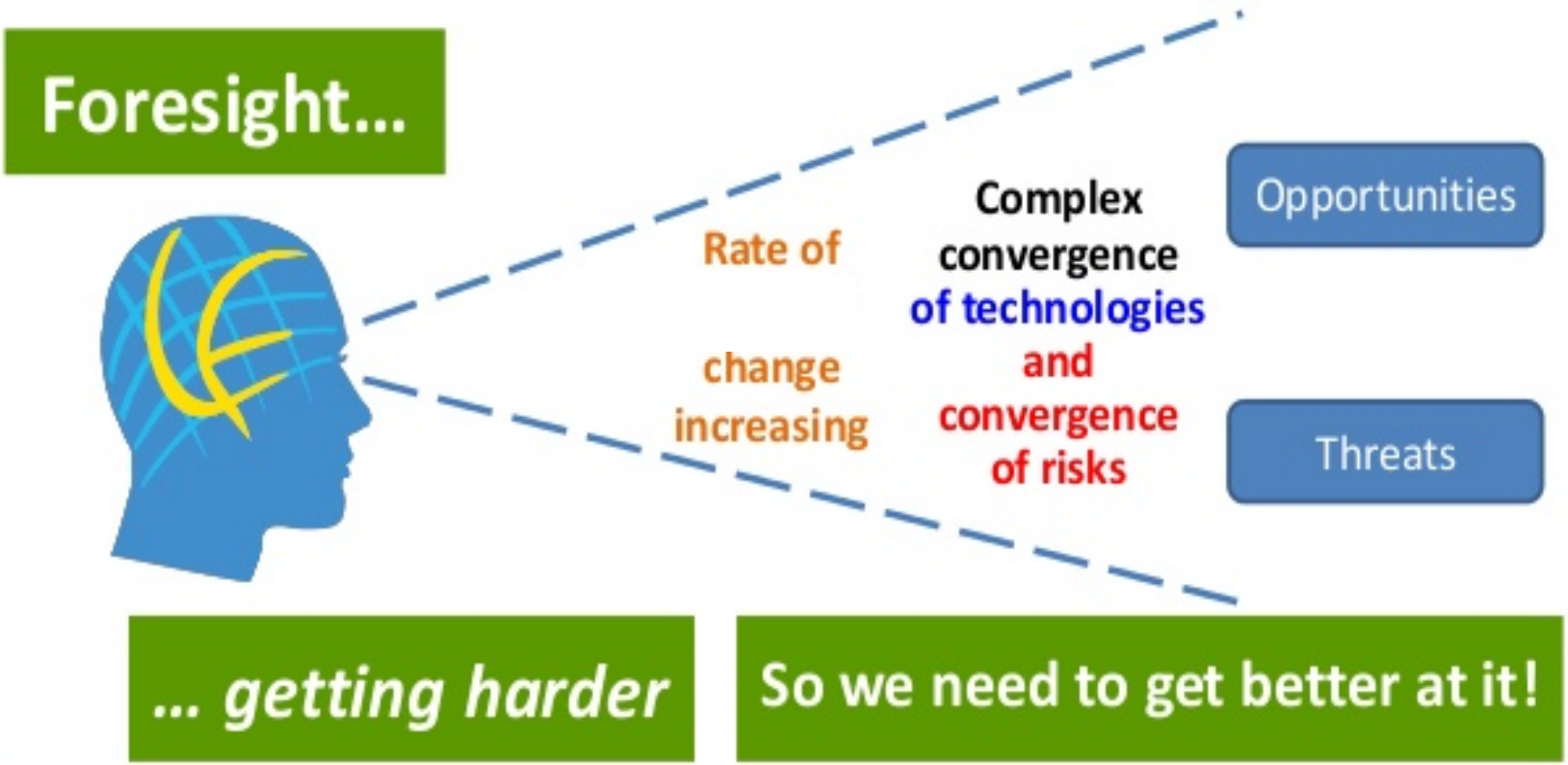
Preparing Students for the Future by Actually *Teaching* Them about the Future

University of Bologna

19 April 2018

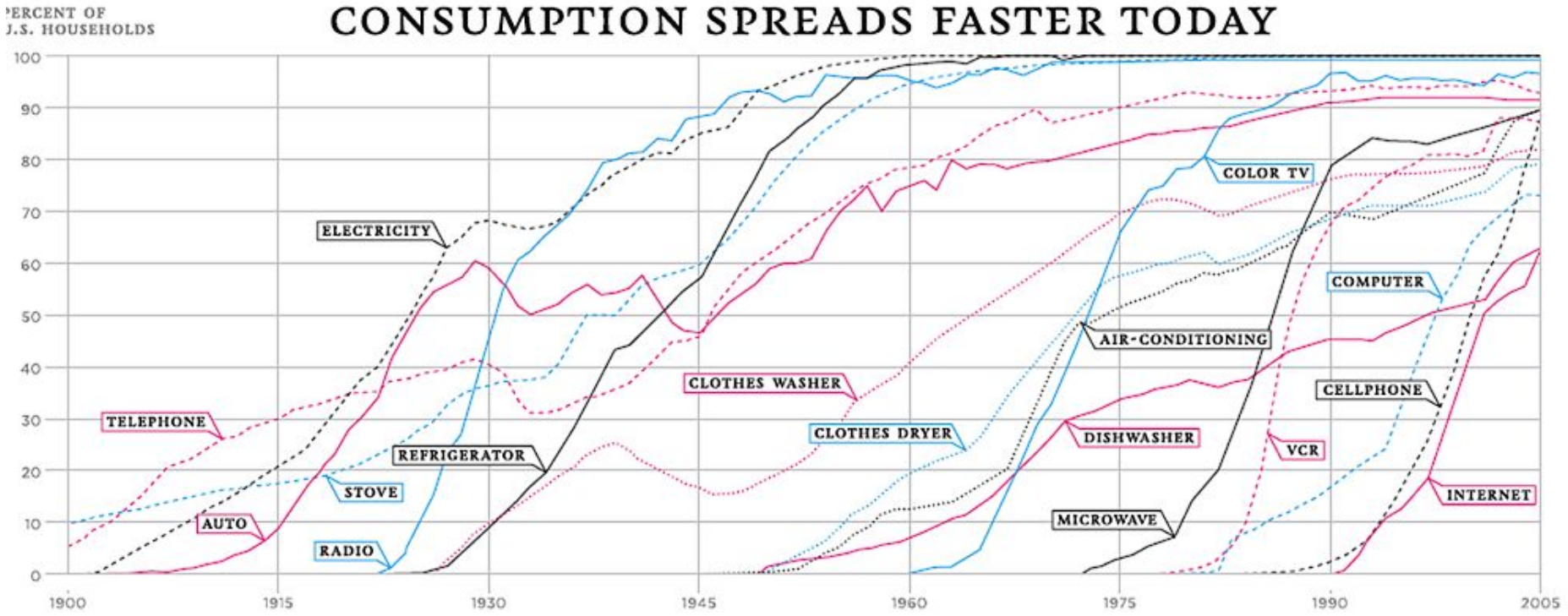
http://bit.ly/LETU_Aug_2017

Why Now?



http://www.slideshare.net/DeltaWisdom/dw-wts-2015-augmented-reality

Accelerating rate of adoption



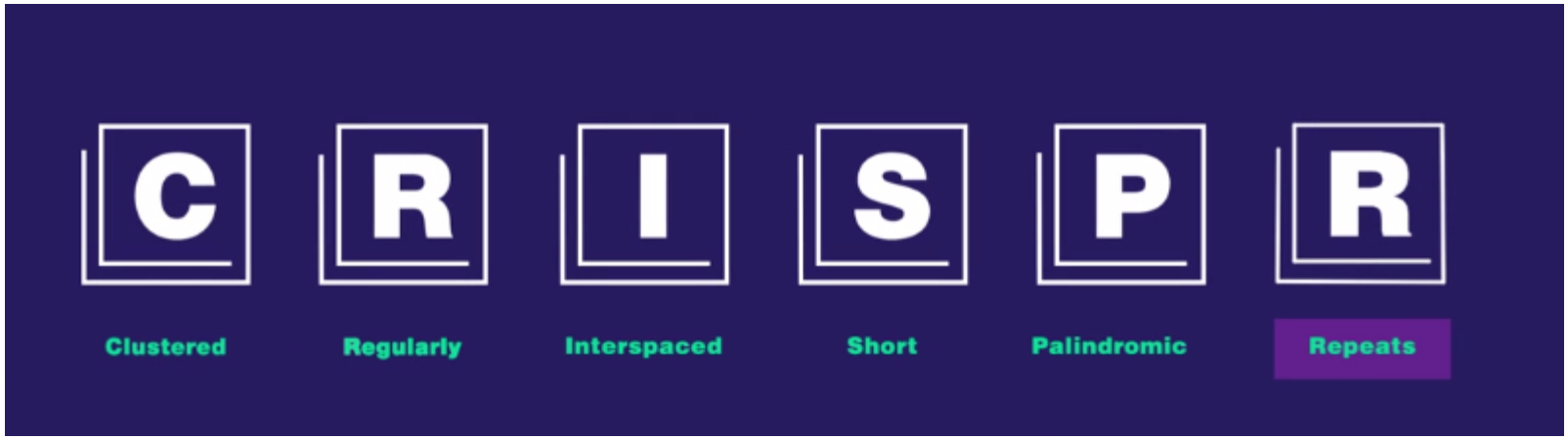
Time to 50% adoption

- Telephone = 45 yrs
- Internet = 10 yrs

We teach the future as well as the past.

Big Decisions Ahead

Manipulating the germ line



I want my students to leave with…

We teach the future as well as the past.

We teach the future as well as the past.

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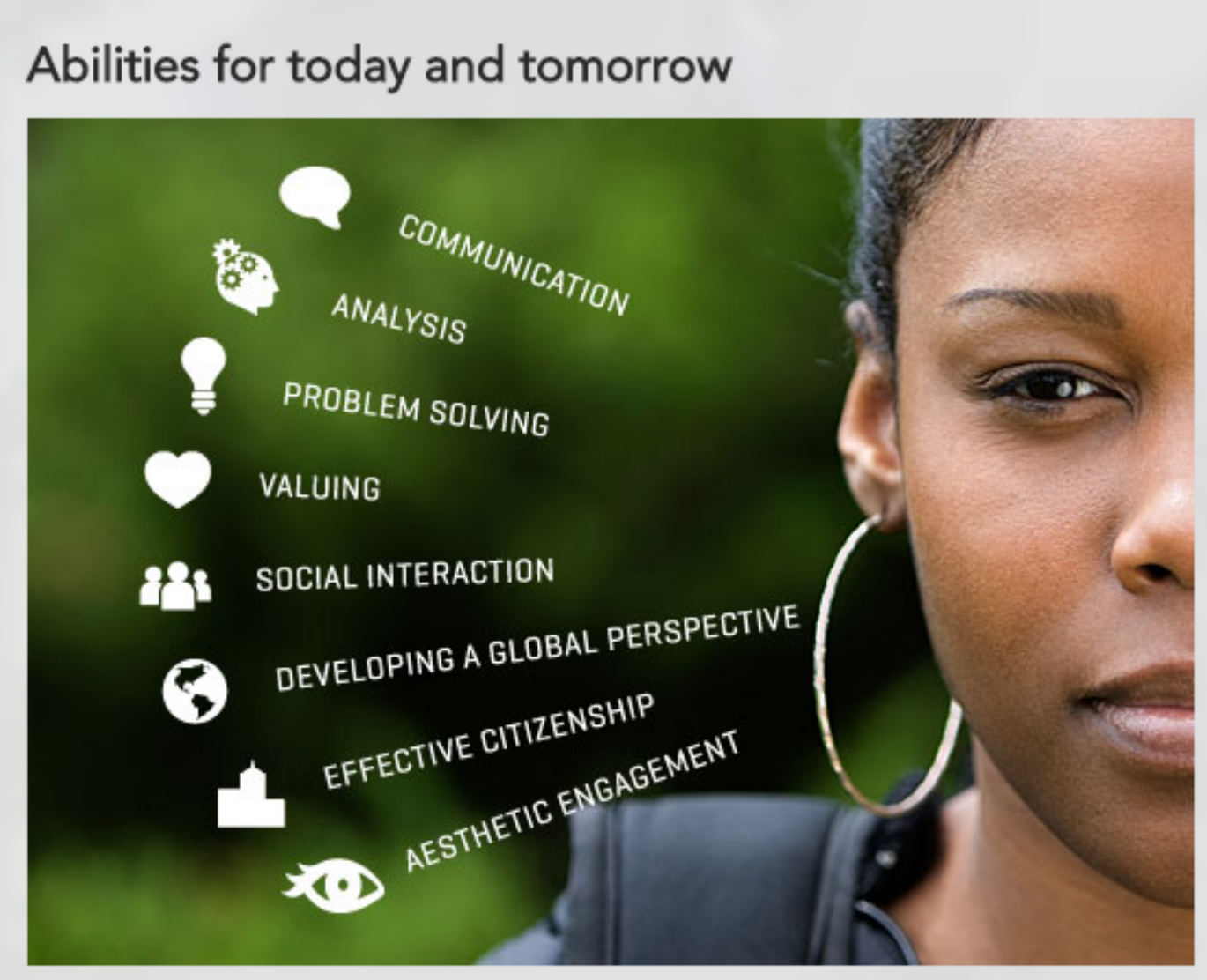

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What do stakeholders want?

P21 (Educational Leaders)

- **4 C's** – Collaboration, Communication, Creativity, Critical Thinking
- Key Subjects
- Learning and Innovation Skills
- Information, Media and Technology Skills
- Life and Career Skills
- Social and Cross-Cultural Skills

Business Recruiters

- Ability to work collaboratively
- Adaptability
- Analytical thinking
- Communication skills
- Creative problem solving
- Decision making
- Leadership skills
- Motivation/drive
- Quantitative skills
- Strategic thinking

http://www.p21.org/our-work/p21-framework

https://www.bloomberg.com/graphics/2015-job-skills-report/

A Claim

Learning about the future

not only supports the 4C's,

the P21 skills, and the Recruiters' preferences,

it actually requires them because

there are no ready answers about the future.

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How are students learning about the future today?

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The Predictable Future

Science Class

The future as a **river** or a **road** or even a **roller coaster**,

following one path and leading to a specific point

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The Contingent Future

History, Social Studies Class

The future as a **game of chance,**

completely unknowable and unpredictable.

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The Chosen Future

The future as a **plan** or a

blueprint, the result of our

own choices and efforts

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The Actual Future

Which one is correct? Why not use all three?

– The Expected Future

- Where we are headed
- The future if everything continues as it has
- The result of conditions and trends (momentum)

– The Alternative Futures

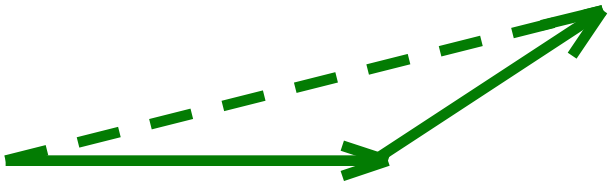
- What might happen instead
- The set of plausible futures if something less likely or unexpected happens
- The result of events and issues (contingencies)

– The Preferred Future(s)

- What we want to happen
- Either the expected or any of the alternative futures that is preferable
- The result of our vision, goals, plans and actions (agency)

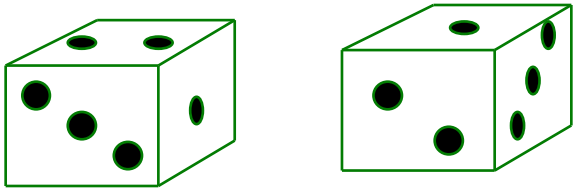
Mechanisms of Change

Momentum



Choice

Disruption



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Three Futures

Futures	Forces	Thinking	Techniques
Expected (baseline)	Constants Trends	Definite Scientific	Historical analogy Extrapolation
Plausible (alternative)	Discontinuities Surprises	Speculative Imaginative	Scenarios Simulation
Preferable (visionary)	Choices Images	Aspirational Empowered	Visioning Planning

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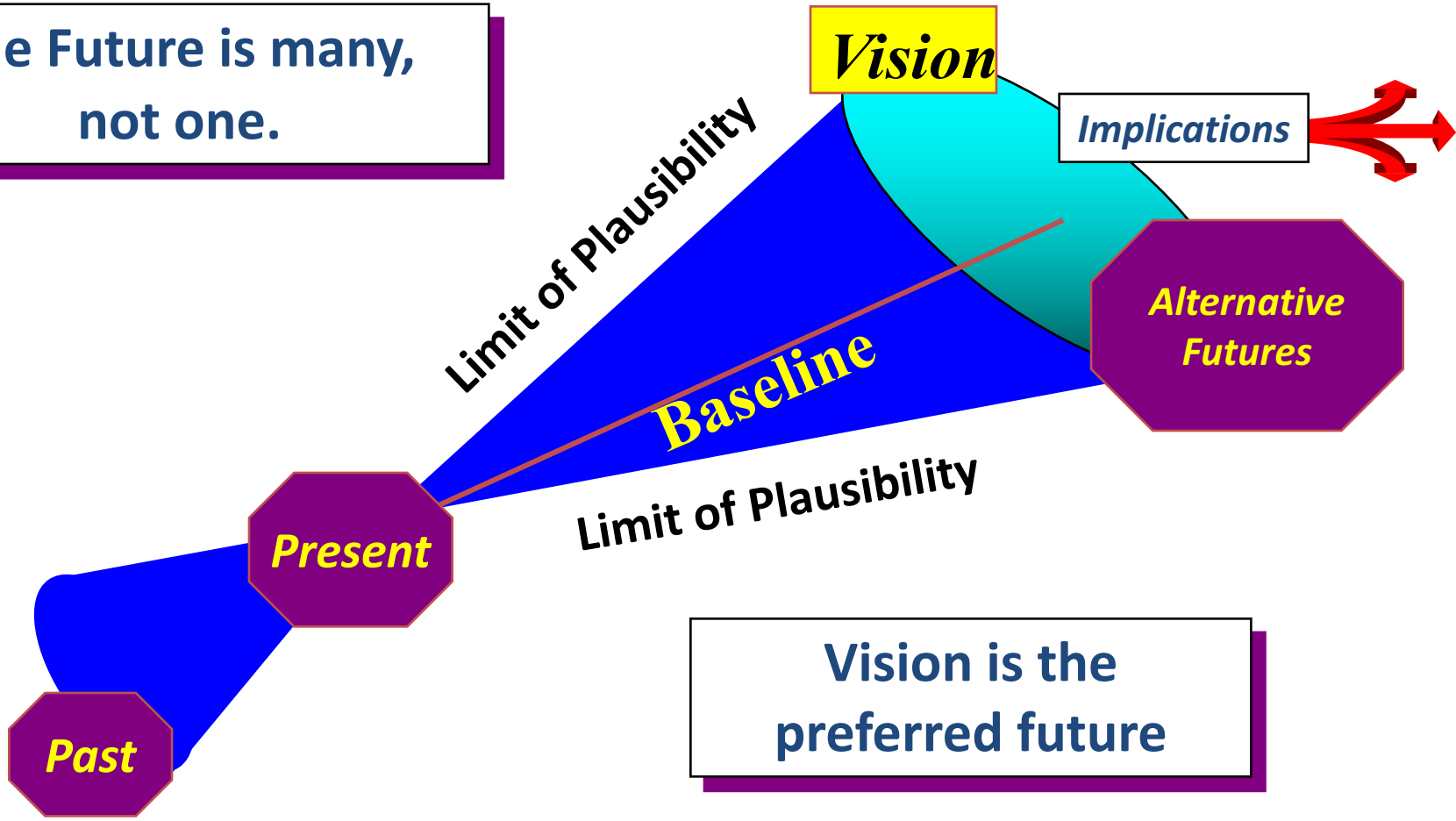
The Cone of Plausibility

The Future is many, not one.



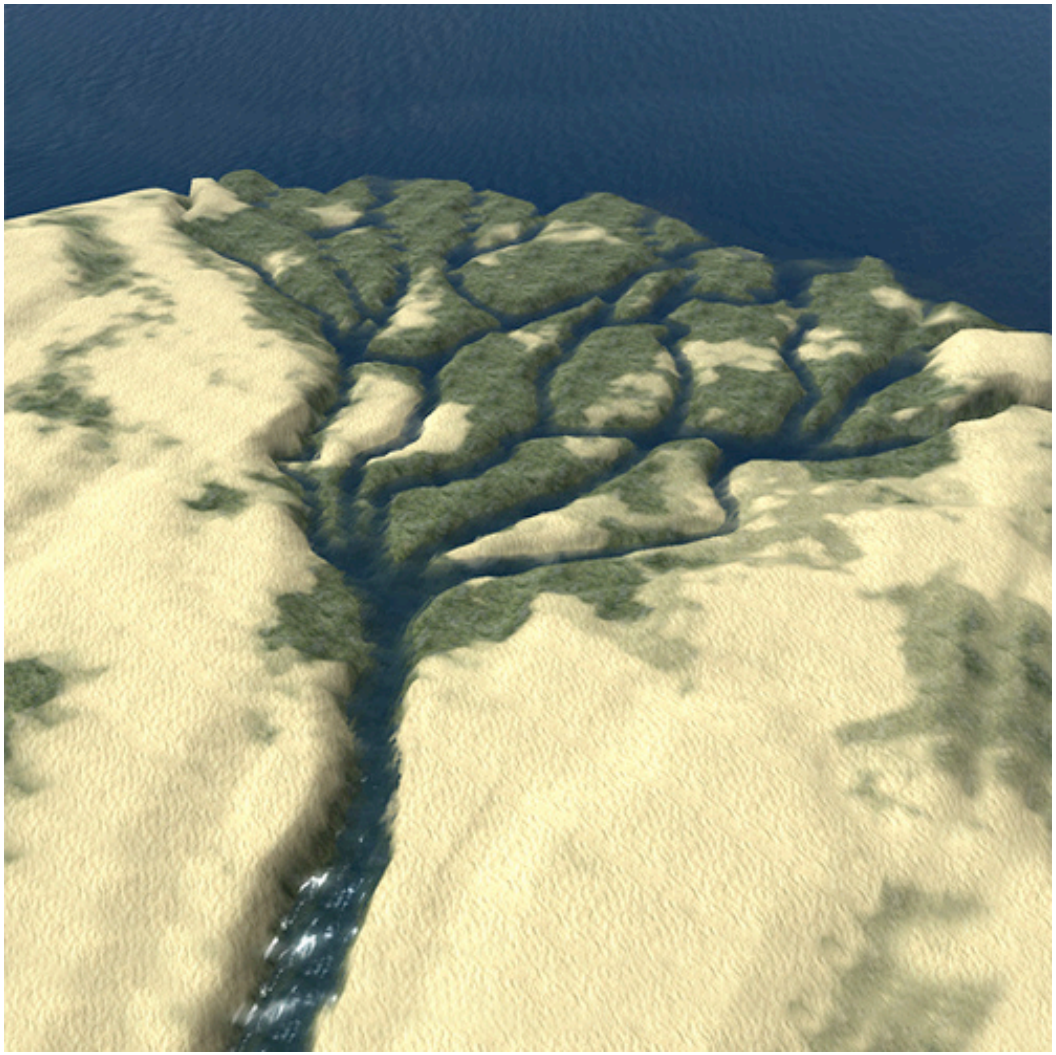
Vision is the preferred future

Source: Charles Taylor, Army War College

10 Things
Your Students Should Know about the Future

We teach the future as well as the past.

1. The future is many, not one.



We teach the future as well as the past.

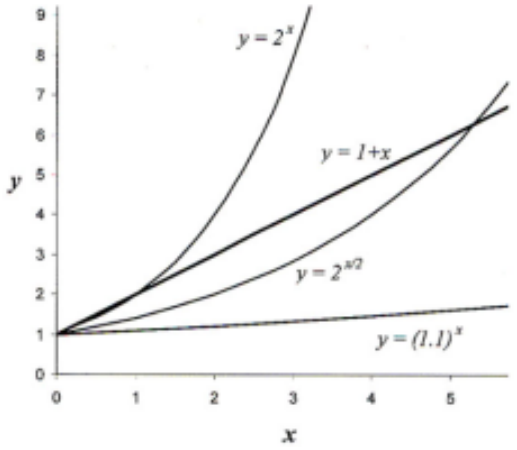
2. The future comes from the world and from ourselves.

We teach the future as well as the past.

3. Change occurs slowly and then rapidly in alternating cycles.

4. Therefore, our picture of the future is wrong!

- The energy crisis, 1973
- The PC, 1981
- The Berlin Wall, 1989
- The First Gulf War, 1991
- The World Wide Web, 1994
- Y2K, Tech Bubble, 2001
- 9-11, 2011
- The Great Recession, 2008
- The recent election, 2016



- _____, 2022?
- _____, 2026?
- _____, 2029?
- _____, 2030?
- _____, 2035?

5. Nevertheless, we are headed somewhere.

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6. But what might happen instead?

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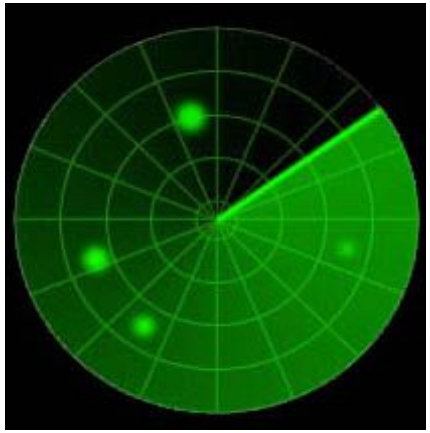
7. Anything is possible, but not everything is plausible.

8. Pay attention to weak signals



9. Dealing with the unpredictable future is like going into space.

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10. And be careful!

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Ways to Start Teaching the Future

- **Library** of more than 60 activities, lessons, etc.
- A 6-Hour **Update** on using general tools (Fort Bend, Spring Branch, Coppell)
- A summer **enrichment** program taught by district teachers (Spring Branch, Fort Bend)
- Two **books**
  - *Futures Thinking Playbook* (world futures)
  - *What the Foresight?* (personal futures)

Library of Futures Materials

Keywords:

Types:
- Activity
- Course
- Lesson
- Lesson Set
- Unit

Levels:
- Elementary
- Secondary
- College

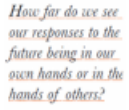
Subjects:
- All
- Advisory
- Arts, Design
- English / Language Arts
- Foresight
- History
- Mathematics

A Framework for Brainstorming Products

Brainstorming artifacts from the future is meant to be both imaginative and useful. To help students thoughtfully consider what objects might fill in their future scenarios, teachers can use this structured framework for brainstorming product ideas. ...

Type: Activity Level: College, Secondary Subject: Arts, Design

An Educator's Guide: Realistic and creative tools for thinking about the future



Students' beliefs about the future often dictate their actions, mindsets, and sense of agency in the world. This activity allows educators and students to explore how they see the future, why they see it that way, and what it might be like to adopt a ...

Type: Activity Level: College, Secondary Subject: All

Big History Project: The Future

The Big History Project is not your average History course: it begins 13.7 billion years ago and ends in the future. Designed by scholars and educational experts, this free course takes a multi-disciplinary approach and highlights the enormous amount ...

Type: Course, Lesson Level: Secondary Subject: History, Science, Social Studies

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History Lessons

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LIBRARY

Next Chapter in World History

Level: Secondary
Type: Activity
Subject: History

Change Over Time

Level: Secondary
Type: Lesson Set
Subject: History, Social Studies

Gapminder

Level: College, Secondary
Type: Activity
Subject: History, Mathematics, Social Studies

The Future of the American Dream

Level: Secondary
Type: Unit
Subject: English/Language Arts, History, Social Studies

Big History Project: The Future

Level: Secondary
Type: Course, Lesson Set
Subject: History, Science, Social Studies

Social Studies Lessons

Governance for the Future

Level: College, Se
Type: Activi
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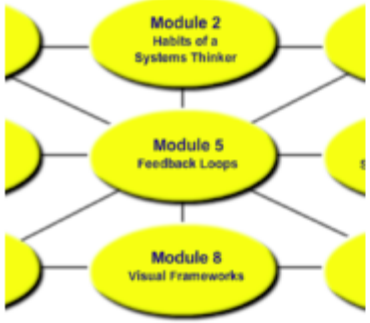
World Game

Level: College
Type: Activity
Subject: Science, Social Studies, Technology

Values and Public Policy

evel: College, Secondary
e: Activity
ubject: Social Studies



Sy
Sch

Level: Colleg dary
Type: Lesson Set
Subject: Mathem

Human Augmentation

Level: College
Type: Course
Subject: Social Studies, Technology

Sarkar Game

Level: College
Type: Activity
Subject: Social Studies

I

Level: Co
Type: Cour
Subject: Soc s

International Futures

Level: College
Type: Course
Subject: Foresight, Social Studies

65 sets of materials

Type	Number
Activities (in one class)	8
Lessons (1-3 classes)	14
Lesson sets	5
Units (2-4 weeks)	20
Courses (6-15 weeks)	6

Subject	Number
Art	2
Design	10
Language arts	2
History	6
Math	1
Science	2
Social science	5
Technology	6

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Teacher Workshops

- Futures Thinking
- Sources of change

Tools for teaching skills

- Critical thinking
- Systems thinking
- Consequential thinking

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GIFTED AND TALENTED SIX HOUR UPDATE
June 19, 2017

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I. Introductions and Welcome!

A. Introductions: A penny from the past
B. Making that first connection: A penny from the future
C. Making "cents" of futures thinking

st.

Enrichment Programs

Enrichment program		21st century skills
• Build a team	→	• Collaboration
• Select a topic	→	• Decision-making
• Gather information	→	• Research
• Identify the Expected future	→	• Cause-effect reasoning
• Challenge assumptions	→	• Critical thinking
• Develop Alternative futures	→	• Contingency thinking
• Write scenarios	→	• Creativity
• Present scenarios	→	• Communication
• Reflect on the process	→	• Evaluation

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Textbooks

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The Content

Challenge: **Define** 1

- **Play 01** Views of the Future
- **Play 02** What's Your Future Point of View?
- **Play 03** Choosing a Topic to Explore
- **Play 04** Taking a Deeper Dive

Challenge: **Gather** 2

- **Play 05** What's Changed?
- **Play 06** Finding Patterns
- **Play 07** Noticing Patterns Related to Your Topic
- **Play 08** The Great Pattern Mix-up
- **Play 09** The Patterned Future

4 Challenges

3-5 Plays per Challenge

Summer – the basis for 3 futures camps

Fall – physical and electronic versions released

Challenge: **Define** 3

- **Play 10** What If?
- **Play 11** Consequences of Change
- **Play 12** Imagine: The Game
- **Play 13** Expanding on the What If? Future

Challenge: **Reflect** 4

- **Play 14** Possible, Probable, Preferred
- **Play 15** A Hero for the Future
- **Play 16** Reflecting on the Future

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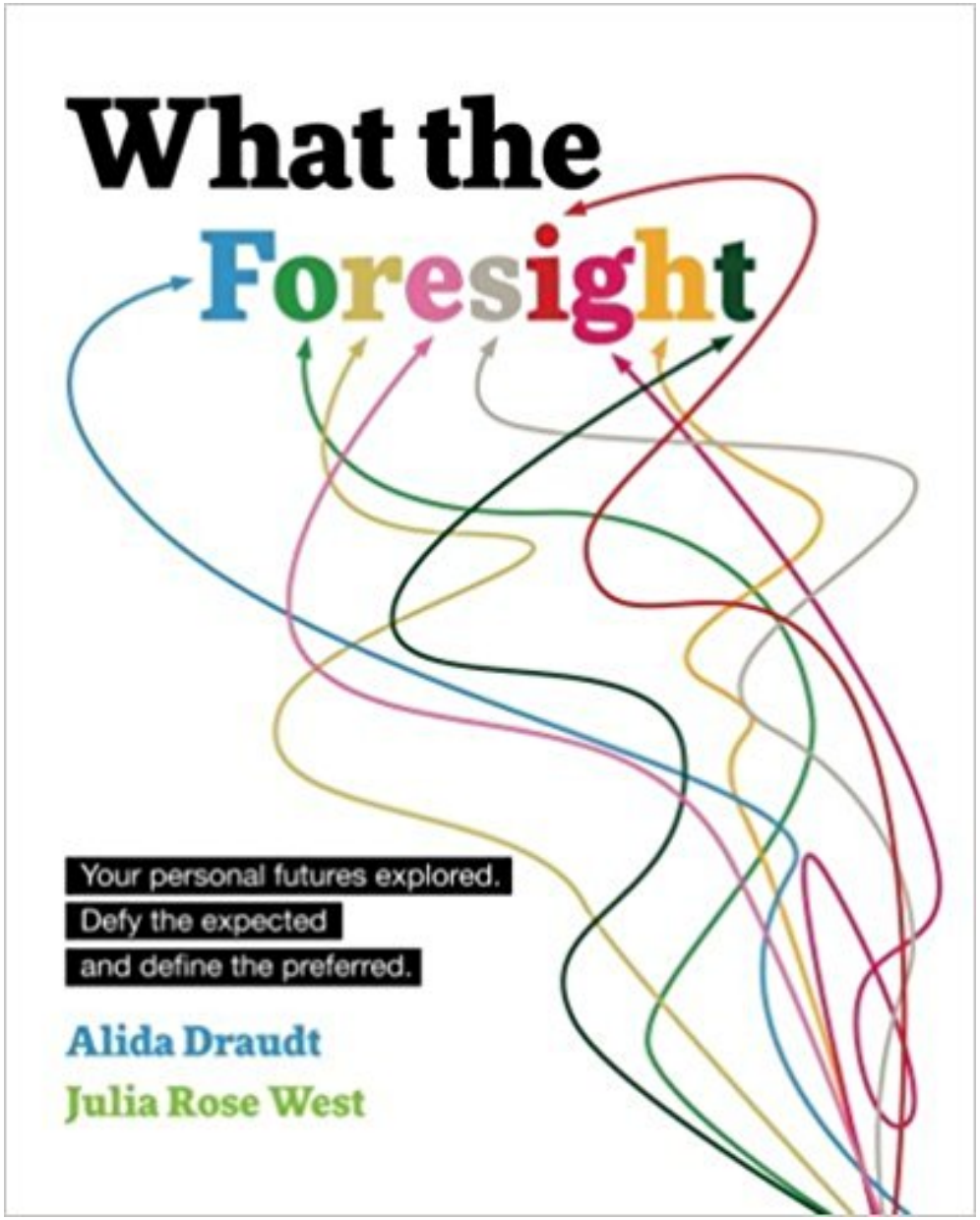
Tools for Personal Futures



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You could teach this!

- **History** – flow, change over time, time series, patterns, uncertainties, contingencies, alternative histories, historical images of the future, historical analogy
- **Literature**, language – future tense, subjunctive mood, science fiction, the questions for fictional conditions and characters
- **Mathematics** – time series, extrapolation, probability, preference ranking, criteria weighting
- **Physical science** – time series, extrapolation, technological applications, social consequences, public issues
- **Social science** – social change, trends, plans, time series, cultural concepts of time, national and global awareness

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Why we teach the future?

- **Empower** students to envision a preferred future and to develop agency to bring it about
- **Engage** students in projects where they enjoy learning (TPSP)
- Teach students to navigate the **complex challenges** of global change
- Develop **higher order thinking skills**, such as research, analysis, creativity, critical thinking, evaluation, synthesis and communication.
- **Differentiate** instruction by providing students with open-ended projects
- Encourage **collaboration** among students and across disciplines
- Participate in an **innovative educational movement** with other creative educators around the world

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They know where they are going?

Do they?

We teach the future as well as the past.

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www.TeachTheFuture.org

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