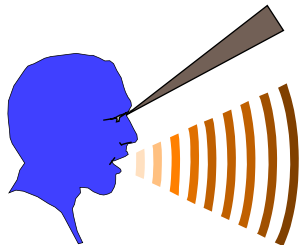


Foresight Across the Curriculum



*Dr. Peter Bishop
Futures Studies
University of Houston*



FIESP
Sao Paulo, Brasil
23 September 2013

Dr. Peter Bishop, Strategic Foresight, University of Houston

The Opening



**My name is
Harvey Milk...
And I want to
recruit you.**



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Questions



- What is the purpose of education?
- How many of us were specifically prepared for a different (or changed) future?
- How many of us were specifically prepared to influence (or change) the future?
- Should we specifically prepare (teach) students to anticipate and/or influence the future?
- If so, are we doing it?
- If not, why not?



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Alvin Toffler



“All education springs from images of the future and all education creates images of the future...all education, whether so intended or not, is a preparation for the future. Unless we understand the future for which we are preparing, we may do tragic damage to those we teach.”

*-- Learning for Tomorrow: The Role of the Future in Education,
New York: Vintage Books, 1974*

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Vision



**Students learn as much about the future
as they learn about the past.**



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A Final First Word



**Learning is
the only sustainable strategy
in an environment
of rapid innovation and change.**



Adapted from Arie de Geus
former Director
Strategic Planning Unit
Royal Dutch Shell Group

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Thinking about the Future

- **Foresight is a natural human ability --** The human ability to create (or re-create) sensations and images that are not immediately present.
 - Some of those lie in the past – **memory**
 - Some lie in the future – **foresight**
 - Some are purely fanciful – **fiction**
- **Even though most people have no formal training in foresight, they learn to think about the future from different sources in different ways.**

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The Predictable Future

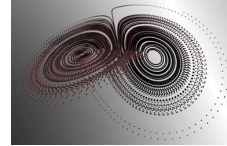
- Predictability, according to natural law, was one of the most powerful cornerstones of the scientific revolution -- Newton, Leibniz, Enlightenment
- So much so that it became the default assumption about the future -- physical science, social science, the professions
- Based on the belief of order, causality, connectedness, and flow
- The future as a river, following one path and leading to a specific point



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The Contingent Future

- We learn history as primarily a series of events and actions.
- In last century, the contingencies and uncertainties inherent even in natural phenomena became apparent –
 - Stochastic processes -- Galton
 - Quantum mechanics -- Bohr, Heisenberg
 - Biological evolution -- Gould
 - Chaos theory -- Lorenz
 - Complexity science -- von Neuman, Wolfram, Kauffman
- Based on the dominance of chance and uncertainty over determinism and predictability
- The future as a dice game



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The Chosen Future

- The religious, economic and political traditions of Western society place primary responsibility for the future on individuals—on their intentions and their actions.
- Examples –
 - Religion claims that we will be rewarded and punished according to our actions; the law also holds individuals responsible for their actions.
 - Individuals in a market economy must provide for themselves and their families.
 - When something goes wrong, we look for someone to blame; when something goes well, we hand out awards.
- Based on the dominance of human agency and free will over the forces of determinism and chance
- The future as a blueprint



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The Actual Future



- **Which one is correct? If we teach about the future, which one should we use?**
- **Why not use all three as the best way to think about the future?**
 - **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)

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Foresight in the Classroom



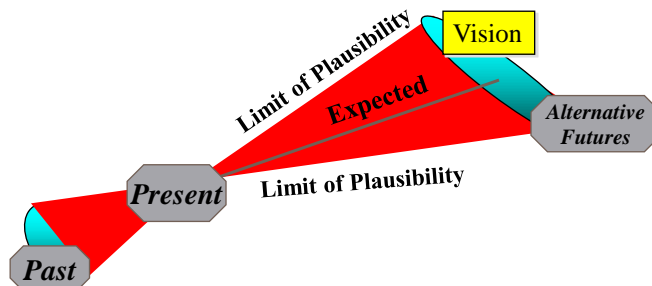
Four simple questions

What is happening today? -- Change

What do you think is going to happen? – Expected future

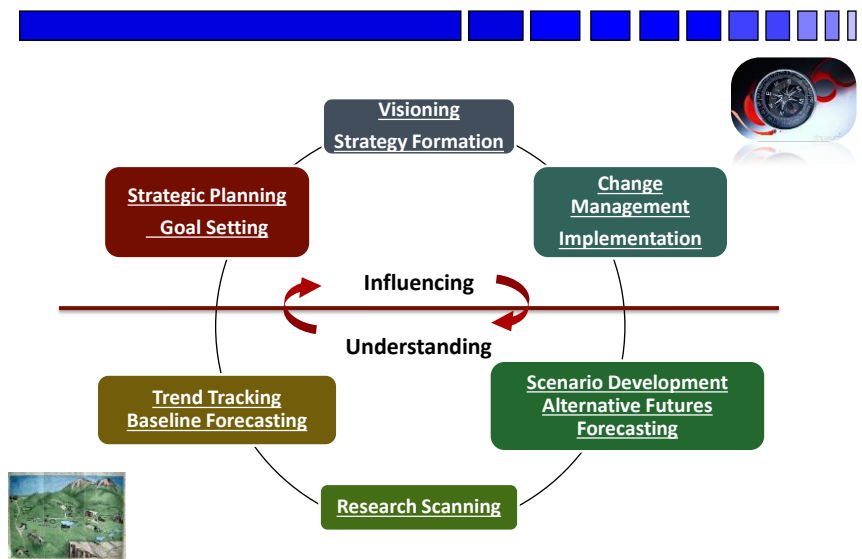
What might happen instead? – Alternative futures

What do you want to see happen? – Preferred future(s)



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Futures Tools II



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Questions for a Futures Discussion I

1. **How much has changed since your parents or grandparents were your age?** -- *Go ask them! (Interviewing)*
2. **What is changing today?** – *What evidence do have for that? (Research)*
3. **Why do you think those things are changing?** – *What’s causing the change (Systems thinking)*
4. **How will the world be different when you are your parents’ age?** – *Why do you say that? (Forecasting, Supporting inferences)*
5. **What might happen in the meantime to change that?** -- *Do you have any foundation for that? (Critical thinking, Scenario development, Story telling)*

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Questions for a Futures Discussion II



6. Which of those futures do you like and which ones do you not like? -- *Why? (Values clarification)*
7. What would like to see happen instead? – *What’s the ideal world you would like to see? Visioning, goal-setting*
8. Who might help you bring about that ideal world? -- *Leadership*
9. What could you and your team do to bring that about? – *Planning*
10. When will you start to do those things? – *Commitment, Action, Service learning*

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Foresight in a Complete Course



MENDOZA COLLEGE OF BUSINESS

Houston 2040

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Foresight by Discipline



- **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 three 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, time series, cultural concepts of time, national and global awareness

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Int'l Schools with training



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Int'l schools with projects



1. **Belgium:** 10th grade 10 Humanities, 7th grade Issues, Upper School English, High School Art
2. **Czech Republic:** 11th grade Physics
3. **Latvia:** Foresight/Future Thinking in 11th & 12th grades
4. **Macedonia:** AP Human Geography
5. **Philippines:** 8th Grade “Changing Our World” Social Studies
6. **Paraguay:** “Project 2023” helps students explore educational and career goals/options ten years ahead.
7. **Romania:** Pilot program for middle school “gifted and talented” this year, all 8th grade students next year.
8. **Taiwan:** US and 10th grade History

Source: Goldbeck, 2013

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Foresight Programs around the world



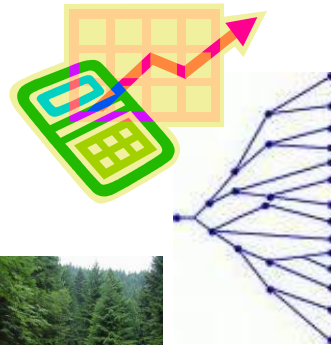
Source: Accelerating Studies Foundation,
<http://accelerating.org/gradprograms.html>

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Benefits – the bottom line



- **The expected future**
 - Causal reasoning
 - Mathematical extrapolation
 - Critical thinking, identifying assumptions
 - Implications analysis
 - Evaluation
- **The alternative futures**
 - Challenging assumptions
 - Creativity, imagination
 - Causal reasoning from different premises
 - Estimation of plausibility
 - Implication analysis, evaluation
- **The preferred future**
 - Values clarification
 - Preference ranking, criteria weighting
 - Communication, persuasion
 - Planning, organizing



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Rules for Talking about the Future



- | | |
|---|--|
| 1. The future is uncertain | <i>Admit uncertainty</i> |
| 2. The future is plural | <i>Talk possibilities</i> |
| 3. Different assumptions create different futures | <i>Uncover and discuss assumptions</i> |
| 4. The future is being created-- | |
| -- outside in the environment | <i>Tell stories</i> |
| --- inside people's aspirations | <i>Encourage visions</i> |

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Resources

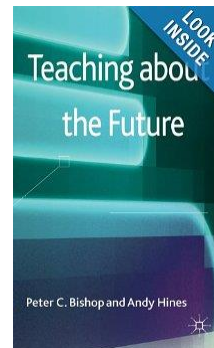
- Bishop, Peter, & Andy Hines, *Teaching about the Future: The Basics of Foresight Education*, Palgrave Macmillan, 2012.
- Hines, Andy, and Peter C. Bishop. 2013. "Framework foresight: Exploring futures the Houston way." *Futures*. In press. Available online, May 2013, <http://dx.doi.org/10.1016/j.futures.2013.05.002>.
- Bishop, Peter C. 2013. "The Need for Foresight Education," *InterEd*, Association for the Advancement of International Education, Spring:24-26.
- Bishop, Peter C. 2011. "A Case for the Future in the Gifted and Talented Classroom", *Tempo* 31(3):23-28.
- Strong, Kay E., and Peter C. Bishop. 2011. "Case Study: Futurizing the K-12 Teaching Practice," *Journal of Futures Studies*, 15(4):181-188.
- Bishop, Peter C. and Kay E. Strong. 2010. "Why Teach the Future," *Journal of Futures Studies*, 14(4): 99-106.

Dr. Peter Bishop, Strategic Foresight, University of Houston

For Additional Information

Dr. Peter C. Bishop
Educator, Facilitator, Futurist

- Phone 281-433-4160
- E-mail pbishop@uh.edu
- Web houstonfutures.org



Dr. Peter Bishop, Strategic Foresight, University of Houston