



10 TED Talks to Transform your Teaching

IAG Conference 2012
Lisa DaVia Rubenstein, Ph.D.

What makes an idea
worth spreading?

What makes an idea worth spreading?

Are we spreading those ideas in our classrooms?

The Importance of Knowledge?

- ❖ The concept of going to school for knowledge is kind of quaint.
- ❖ 65% of preschoolers will have jobs that do not exist today.
- ❖ 50% of material learned in the first year of a college science degree will be obsolete by the time the students graduate.

Jim Carroll

Curriculum Evaluation

- ❖ **Honorable:** Is it worth their time? Could they easily look up the information? Does it honor the world we live in and the students we teach?
- ❖ **Transferrable:** Is it teaching a thought process? Could this idea be adjusted to apply in other areas? Are we explicitly teaching this transfer?
- ❖ **Transformational:** Will it change the world? Will it change the students' perspective?
- ❖ **Beneficial:** Will it make the world better? Is it useful?
- ❖ **Exciting:** Does it engage the students? Does it inspire students to think about how they want to use their talents?



Disclaimer: Please READ OR WATCH all talks before showing your class!

Shai Agassi's bold plan for electric cars

TED2009, Filmed Feb 2009, Posted Apr 2009



00:02 | 18:03

Subtitles Available in: 21 languages (OFF)

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INTERACTIVE TRANSCRIPT

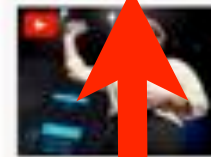
ABOUT THE SPEAKER

ABOUT THIS TALK

Forget about the hybrid auto – Shai Agassi says it's electric cars or bust if we want to impact emissions. His company, Better Place, has a radical plan to take the world's countries oil-free by 2020.

Share your ideas to improve the travel experience: facebook.com/delta

WHAT TO WATCH NEXT



Saul Griffith's kites tap wind energy
05:25 Posted: Mar 2009
Views: 259,062 | Comments: 1



Al Gore on averting climate change
05:25 Posted: Mar 2009
Views: 259,062 | Comments: 1

INTERACTIVE TRANSCRIPT

English

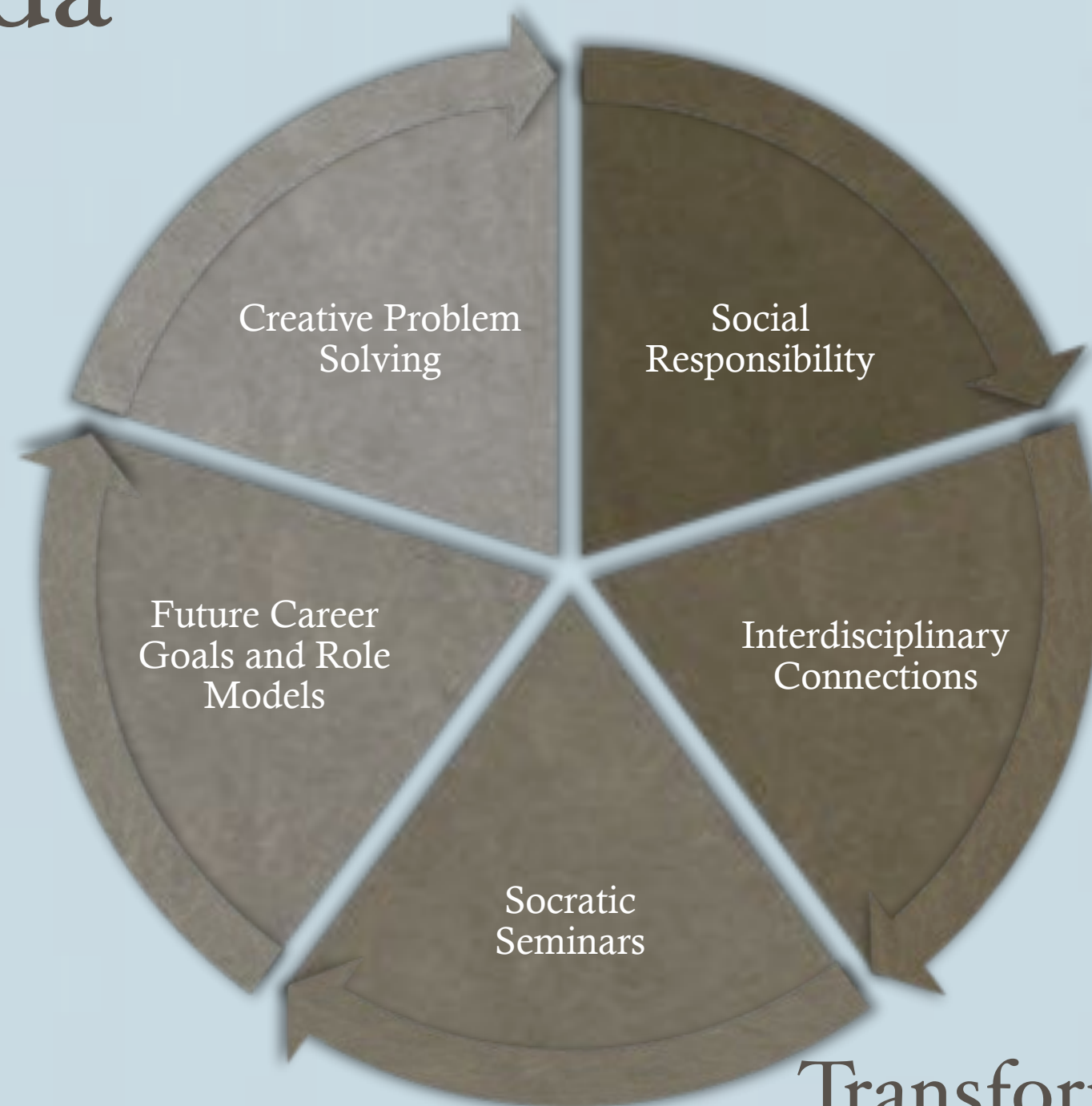
Click on any phrase to play the video from that point.

So how would you run a whole country without oil? That's the question that sort of hit me in the middle of a Davos afternoon about four years ago. It never left my brain. And I started playing with it more like a puzzle. The original thought I had, this must be ethanol. So I went out and researched ethanol. And found out you need the Amazon in your backyard in every country. About six months later I figured out it must be hydrogen, until some scientist told me the unfortunate truth, which is, you actually use more clean electrons than the ones you get inside a car, if you use hydrogen. So that is not going to be the path to go.

And then sort of through a process of wandering

Teaching this lesson allowed me to experience the power of a TED Talk. I have students **who went home and looked up TED Talks** about topics they were interested in, and I had one student bring headphones to school so he could watch one about his modern explorer during in-class research time. Considering that I did not give students much background information about TED Talks and **I did not actually encourage them to check them out on their own** (which maybe I should have!), I have been amazed at the positive response students have shown. I was excited when I learned that my students were actually pursuing TED Talks outside of class! Originally, I was concerned that TED Talks might be too advanced for my 5th grade class. However, my students enjoyed it, and they understood most of it. Now, I am exploring the TED Talk website to find other talks that relate to topics we study so that I can include them in more lessons in the future.

Agenda



Transform your Craft

Transform your Craft



- ❖ Track educational movements
- ❖ Understand advances in various disciplines
- ❖ Study the process of deliberate communication
- ❖ Appreciate who you are teaching

Sir Ken Robinson

Transform your Craft

Sugata Mitra

Transform your Craft

Growing as a Presenter

Problems

- Identification
- Elaboration
- Justification (Significance)
- Consequences of Inaction

Solutions

- Definition
- Elaboration
- Potential
- Possible
- Instructions
- Personal Responsibility

Communication Means

- Examples
- Personal Stories
- Portraits of Others
- Multiple Contexts
- Unusual Connections
- Analogies
- Shared Experiences
- Current Events
- Data Presentation
- Excitement/Passion

Interdisciplinary Connections

- Creativity
- Motivation, Meaningful, and Relevant

“I remember when I first connected something from science and literature and psychology. It was so exciting! I was so excited because I was seeing something, how things were working in the world, and I wasn’t just looking for a test.”

College Freshman Honors Student

- Authentic (Prepares them for the world.)
- Communication and Collaboration

Eric Whitacre

Interdisciplinary Connections

Transferrable Concepts

- | | | | |
|------------------------|-------------------|---------------|--------------|
| ❖ Abundance/Scarcity | ❖ Cycles | ❖ Invention | ❖ Symbol |
| ❖ Acceptance/Rejection | ❖ Defense | ❖ Justice | ❖ System |
| ❖ Adaptation | ❖ Democracy | ❖ Liberty | ❖ Technology |
| ❖ Aging/Maturity | ❖ Discovery | ❖ Loyalty | ❖ Tyranny |
| ❖ Balance | ❖ Diversity | ❖ Migration | ❖ Variance |
| ❖ Change/Continuity | ❖ Environment | ❖ Mood | ❖ Wealth |
| ❖ Character | ❖ Equilibrium | ❖ Order | |
| ❖ Communities | ❖ Evolution | ❖ Patterns | |
| ❖ Conflict | ❖ Exploration | ❖ Perspective | |
| ❖ Connections | ❖ Fairness | ❖ Production | |
| ❖ Cooperation | ❖ Friendship | ❖ Proof | |
| ❖ Correlation | ❖ Harmony | ❖ Power | |
| ❖ Courage | ❖ Honor | ❖ Repetition | |
| ❖ Creativity | ❖ Interactions | ❖ Rhythm | |
| ❖ Culture | ❖ Interdependence | ❖ Survival | |

Chimamanda Adichie

Interdisciplinary Connections

Jacek Utko

Interdisciplinary Connections

Possible Student Projects

- Ideas: Identify the interdisciplinary concepts in this talk. You may use the Transferrable Concepts List to help guide your thinking. Then give several examples of this concept in two other disciplines.
- Solutions: What other fields would benefit from his/her ideas? How might the ideas be adjusted to improve this other discipline? Find someone in another field that would benefit, and construct a letter informing him/her how this idea might benefit his/her work.
- Pretend you watched this talk with _____ (famous person from your current unit of study) and _____ (famous person from another field). What do you think they would talk about after the talk?
- No ideas are born in a vacuum. What do you think inspired this person? What other ideas from other fields added to this person's new idea?

Creative Problem Solving

Identify the goal,
wish, or challenge.

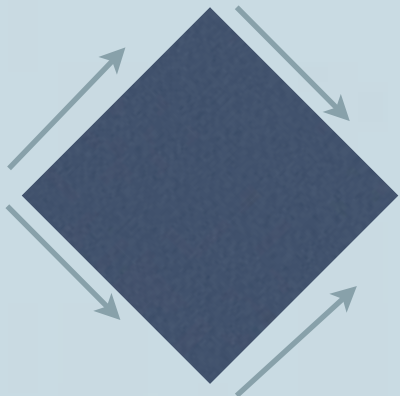
Gather data.

Clarify the
problem.

Generate ideas.

Select/strengthen
solutions.

Plan for action.



Miller, Vehar, & Firestein, 2001

But why?

- ❖ Applicable for any field
- ❖ Provides structure and reliability for creativity
- ❖ Solves problems

“This is honestly the most exciting period for the study of unknown life forms on our planet. The dominant things that exist here we know almost nothing about.”

Nathan Wolfe

Nathan Wolfe

Creative Problem Solving

Creative Problem Solving

Bill Gates



Students



Nathan Wolfe

Speakers



Ed Ulbrich

Student Projects

Speaker CPS

Evaluate how the speaker solves the problem. What steps does he/she take? Would you have done it any differently? Was it effective? Why?

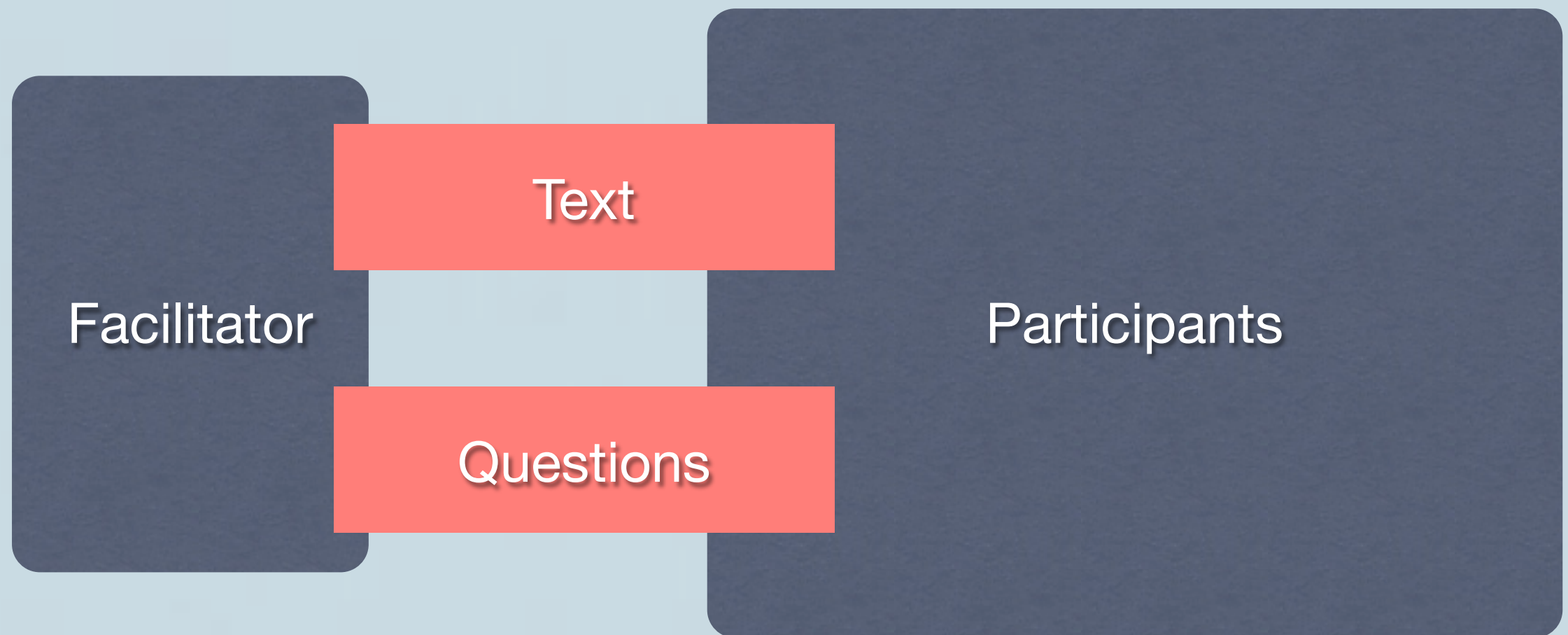
Missing steps: What steps did the speaker neglect? Why do you think they were left out? Write a letter to the speaker to ask for further clarification on their problem solving experiences.

Student CPS

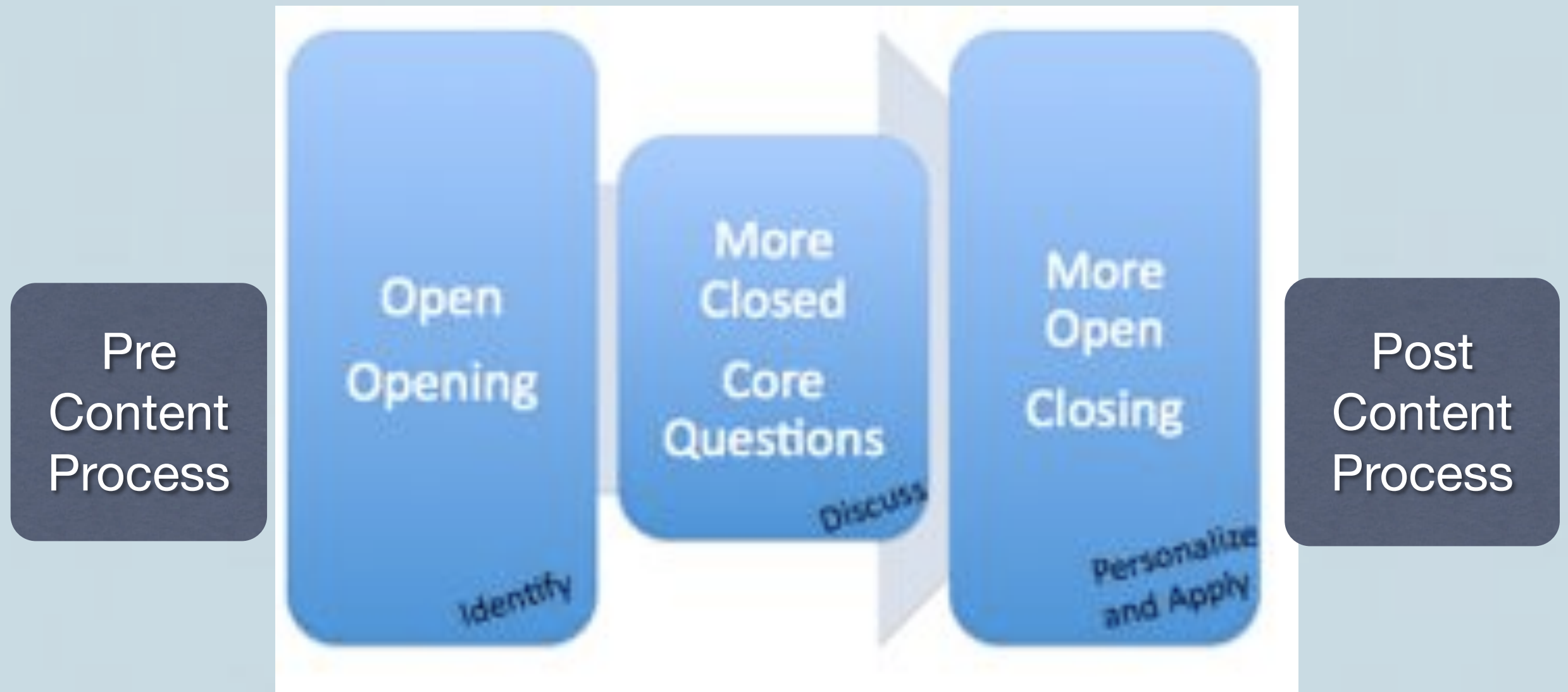
Using the CPS framework, create another possible solution for the presented problem. Create a presentation for the building acceptance portion.

Inevitably solving one problem brings to light several others. Examine potential problems that the speakers' solution will trigger. Using the CPS framework, think through several possible solutions to this new problem.

Socratic Seminars



Socratic Seminars



National Paideia Center

Lucianne Walkowicz

Socratic Seminar

Generic Outline for a Seminar

Pre-Seminar

Content: What is the relevant information? (You may want to give the students an opportunity to think about this at home or overnight.)

Process: What should we work on as a group and as individuals to make this a good seminar?

Seminar

Opening: What is the speakers' purpose? What would be a good title for this talk? (Make sure the students are supporting their answers.) What is the speaker's passion? What is the most important idea?

Core: What is meant by...? Is this the appropriate solution? What is the difference between this speakers' approach and...? How do you think this speech would be viewed by...? Did the speaker support his or her ideas? Is any of the information misleading? What further experiments might be completed to support this perspective?

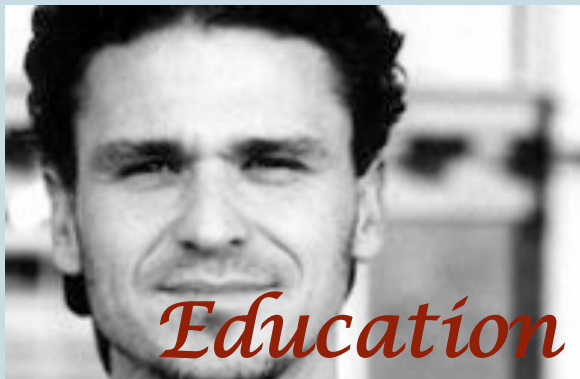
Closing: What does this speech teach us about...? How do these ideas relate to our curriculum? What are the barriers to the implementation of this solution or idea? Why is this important? What are other related questions? What did you learn from the other participants? Do you have any ideas for improving the speaker's ideas?

Post-Seminar

Process: What did we do well during our discussion?

Content: What are your new ideas?

Social Responsibility



Wishes big enough to change the world.

Sylvia Earle

TED Prize

Paul Nicklen

Environmental Responsibility

Possible Projects

Apply for the TED Prize. Write a speech that clearly delineates how you would use the money (\$100,000) and the publicity to change the world. Use the nomination criteria to construct a meaningful proposal.

Evaluate three of the past winners. Why did their ideas win? What makes them significant? Evaluate their progress. If you were the head of a funding agency, which program would you continue to fund and why?

How can you get involved with one of the recent TED winners? How can you use your strengths to help their wish come true?

Future Careers and Role Models

- ❖ Broadened conception of opportunities
- ❖ Multicultural representation
- ❖ Some realism mixed with optimism
- ❖ A beginning
- ❖ A connection



Majora Carter

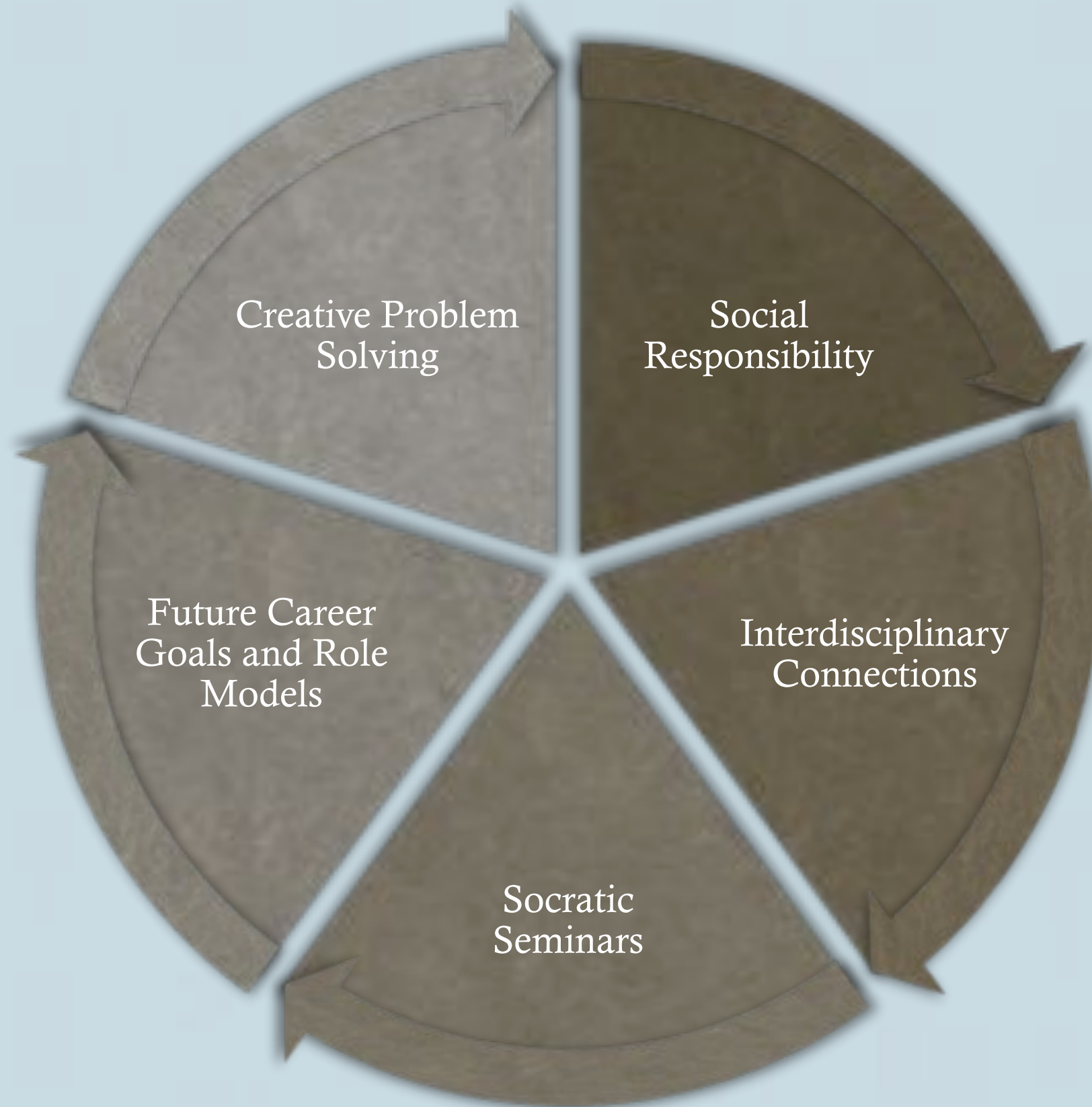
A Socially Responsible Role Model

Possible Projects

Journals: How are you like the speaker? How are you different? Have you ever thought about doing something in that specific field? How could you contribute? What ideas do you have? About what questions do you wonder? What do you admire about the speaker?

Research other people who work on that problem. What characteristics do they have in common? How are they different?

Create an interview protocol. What would you like to know about this person and what he/she does? Look online to see if you can find answers to your questions, and email the person the questions you can not find answers to.



Transform your Craft

My Wish

I wish teachers took the time to explore new ideas and thoughts that interested them.

I wish that students had the opportunity to learn about the amazing breakthroughs that are taking place all over the world in every discipline as a part of their education.

Selfishly, I wish that if my first two wishes come true, that these teachers and students will share their adventures with me.



Thank you.

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