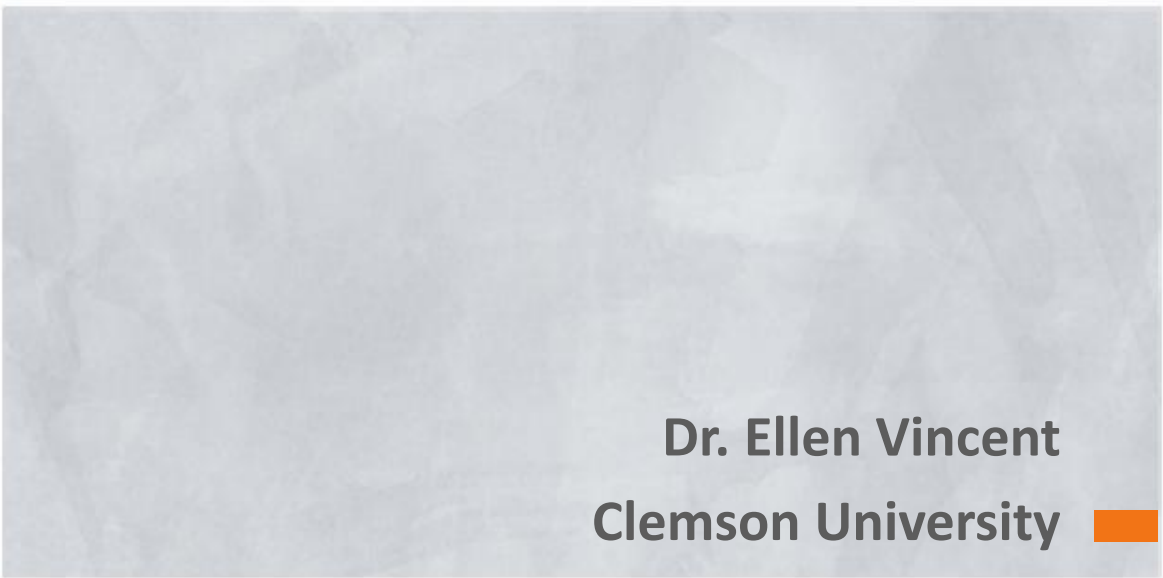
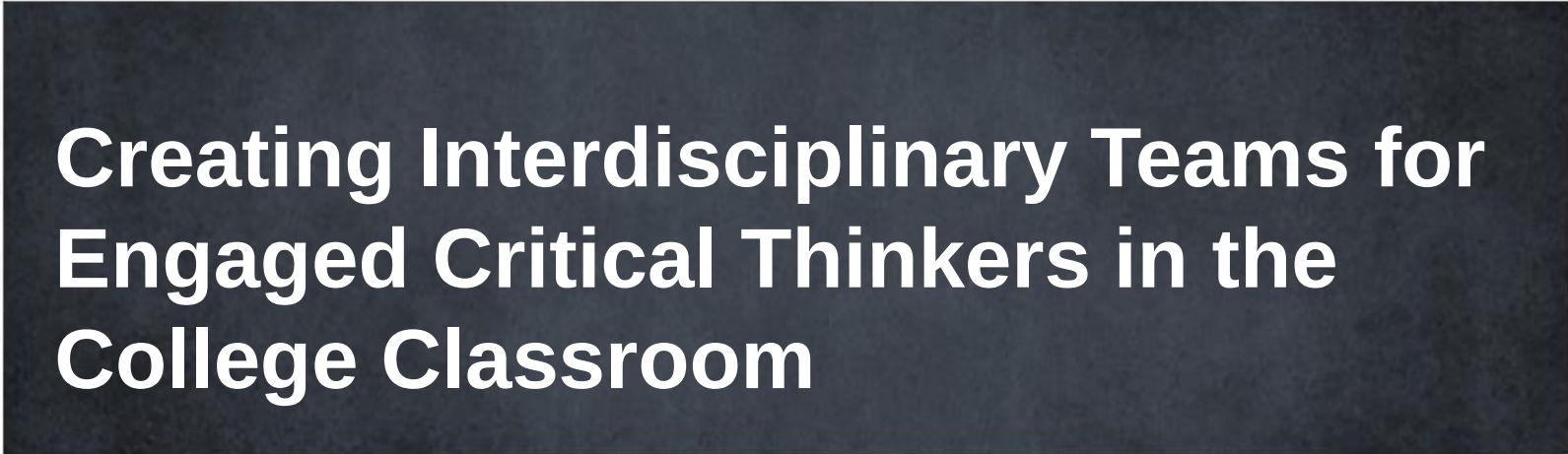




Dr. Ellen Vincent
Clemson University 



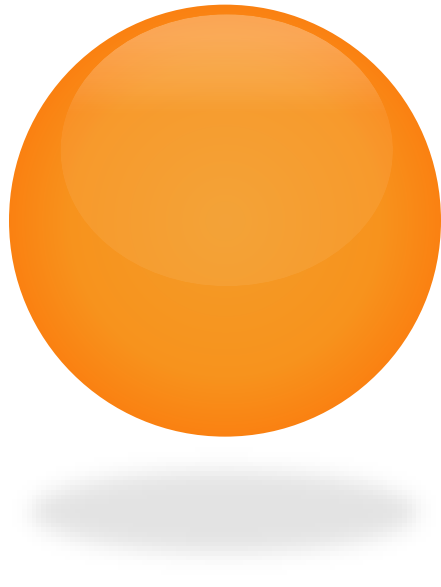
Creating Interdisciplinary Teams for Engaged Critical Thinkers in the College Classroom



South Carolina Conference on Innovations in Teaching & Learning
Medical University of SC (MUSC) Charleston, SC
July 12, 2019

Group work & Critical thinking

Group Work Problem	Solution
Students claim others don't contribute.	Conduct group work (not assignments) in class.
Some students feel they need to do all the work to ensure they will attain a high grade.	Offer professional communication strategies for them to try out in small groups in class.
Critical Thinking Problem	Solution
Definitions unclear	Provide multiple definitions: historic and contemporary ; introduce real people ; embrace messiness .
Promote relevancy	Use subject specific problems and outcomes; relate to vocation problem solving.

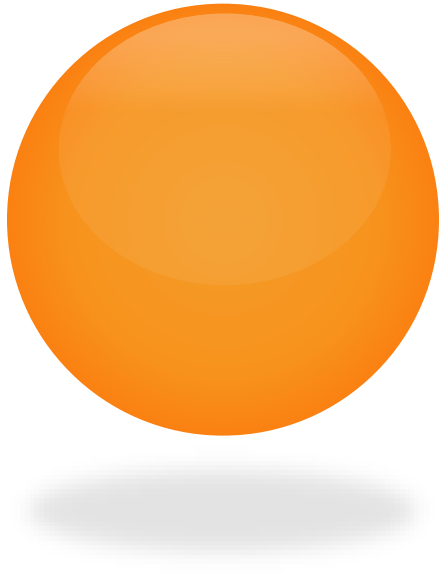


CRITICAL THINKING IS AN ANCIENT RICH CONCEPT

The practice and concepts are 2500 years old.

<http://criticalthinking.org/pages/defining-criticalthinking/766>

HISTORY



IT CAN BE TRACED IN THE WEST TO ANCIENT GREECE WITH ITS SOCRATIC METHOD AND IN THE EAST TO ANCIENT INDIA WITH THE BUDDHIST KALAMA SUTTA AND ABHIDHARMA LITERATURE.

<http://openmindspace.org/CriticalThinking>

Socrates

- Socrates 469–399 B.C.E., lived in Athens, Greece
- He never wrote anything. But Plato did.
- He was ugly, really ugly.
- He liked to talk and **ask questions**.
- He acknowledged women as teachers.
- Young people started to **ask questions** too.
- He was sentenced to death for *irreverence* to the gods and killed by drinking hemlock (*Conium maculatum*).



Socratic method

- Father of philosophy.
- **Questions** were asked to determine logic, ethics, fairness, and constancy.
- Inspired the scientific method (develop a hypothesis and then investigate validity.)

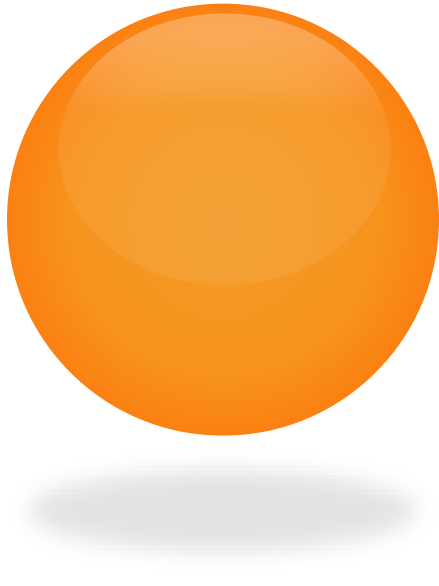


<http://en.wikipedia.org/wiki/Socrates>
<https://plato.stanford.edu/entries/socrates/>

[ps://www.amazon.com/SOCRATES-Translated-Introductory-Huntington-Illustrations/dp/B01DRMUZ8Y](https://www.amazon.com/SOCRATES-Translated-Introductory-Huntington-Illustrations/dp/B01DRMUZ8Y)

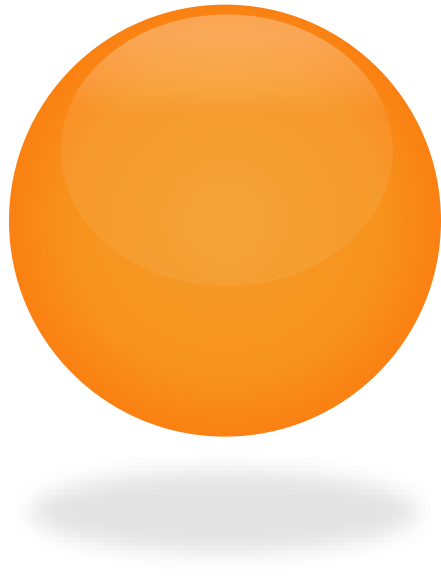
Sculpture by Constantin Brancusi

Socratic principle--Linda Elder



THEY EMBODY THE SOCRATIC PRINCIPLE: *THE UNEXAMINED LIFE IS NOT WORTH LIVING*, BECAUSE THEY REALIZE THAT MANY UNEXAMINED LIVES TOGETHER RESULT IN AN UNCRITICAL, UNJUST, DANGEROUS WORLD. (ELDER BIOGRAPHY)

<http://www.criticalthinking.org/data/pages/14/fd4e6f74cc717ed36a9faccc870b8a2e4fe0bd688b279.pdf>



CRITICAL THINKING IS AN INTELLECTUALLY DISCIPLINED PROCESS

<http://criticalthinking.org/pages/defining-criticalthinking/766>

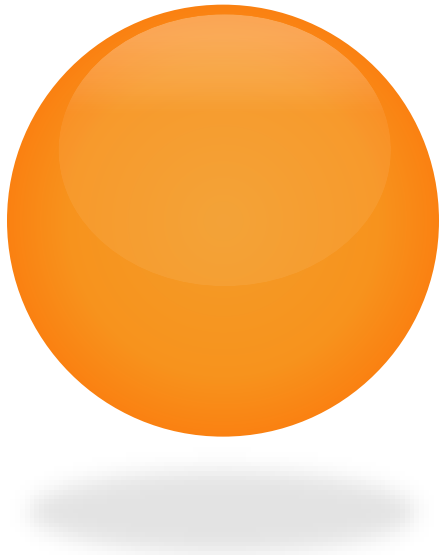
Critical thinking

- Critical thinking happens when we think about how we think... we track our own thoughts and decision making processes (Vincent, 2013).
- Critical thinking...the awakening of the intellect to the study of itself (Scriven & Paul, 1987 from the Foundation for Critical Thinking Defining Critical Thinking at <http://www.criticalthinking.org>).



<http://sandykumskov.com/images/think.jpg>

Critical thinking - Richard Paul



**WE QUESTION OUR OWN PURPOSES,
EVIDENCE, CONCLUSIONS,
IMPLICATIONS AND POINT OF VIEW
WITH THE SAME VIGOR AS WE
QUESTION THOSE OF OTHERS.**

(PAUL BIOGRAPHY BY ELDER)

<http://www.criticalthinking.org/data/pages/37/ff640b6d016307b54cad91e5a9d4edfd4f18adb74215a.pdf>
<http://www.criticalthinking.org/data/pages/14/fd4e6f74cc717ed36a9facc870b8a2e4fe0bd688b279.pdf>

Critical thinking intellectual traits

- Intellectual humility
- Intellectual autonomy
- Intellectual integrity
- Intellectual courage
- **Intellectual empathy**
- Intellectual perseverance
- Confidence in reason
- **Fairmindedness**

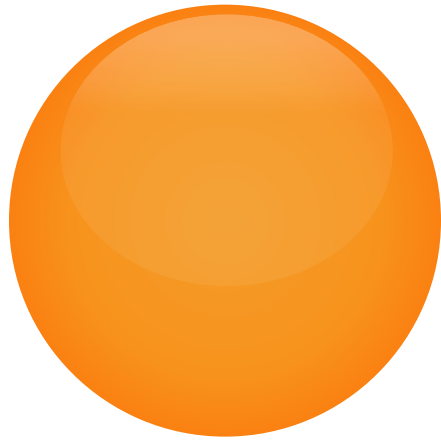


<https://www.pinterest.com/pin/322148179572194734/>

The Foundation for Critical Thinking

<http://www.criticalthinking.org/pages/critical-thinking-where-to-begin/796>





DEFINING INTERDISCIPLINARY

<http://criticalthinking.org/pages/defining-criticalthinking/766>

Definitions

The terms **multidisciplinary**, **interdisciplinary** and **transdisciplinary** are increasingly used in the literature, but are ambiguously defined and interchangeably used.

Dictionary definitions

Multidisciplinary: Combining or involving several academic disciplines or professional specializations in an approach to a topic or problem.

Interdisciplinary: Relating to more than one branch of knowledge.

Transdisciplinary: Relating to more than one branch of knowledge; interdisciplinary.

<https://en.oxforddictionaries.com/definition/us/multidisciplinary>

<https://en.oxforddictionaries.com/definition/us/interdisciplinary>

<https://en.oxforddictionaries.com/definition/us/transdisciplinary>

Research definitions

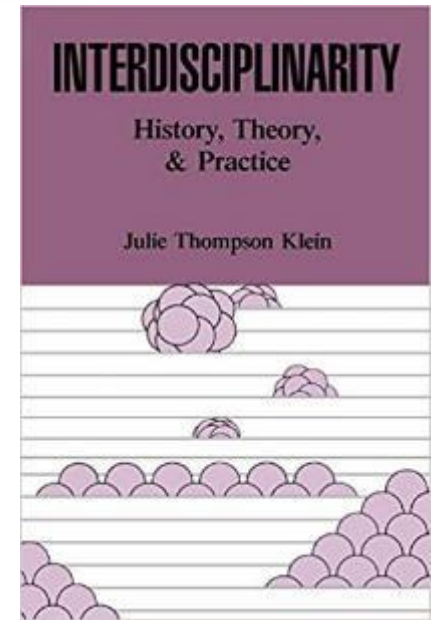
- **Multidisciplinarity** draws on knowledge from different disciplines but stays within their boundaries.
- **Interdisciplinarity** analyzes, synthesizes and harmonizes links between disciplines into a coordinated and coherent whole.
- **Transdisciplinarity** adds knowledge and production from outside the academy to the multiple disciplines within the academy.

Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness. Choi CK, Pak, AW, 2006. <https://www.ncbi.nlm.nih.gov/pubmed/17330451>

<https://sustainabledevelopment.un.org/content/documents/612558-Inter-%20and%20Trans-disciplinary%20Research%20-%20A%20Critical%20Perspective.pdf>

Academic definition

- Interdisciplinarity “is a means of solving problems and answering questions that cannot be satisfactorily addressed using single methods or approaches.” (p. 196)
- Useful for “both short range instrumentality or long range reconceptualization of epistemology as it **represents an important attempt to define and establish common ground.**” (p. 196)



Amazon: \$23.95

new

<https://www.amazon.com/Interdisciplinarity-Practice-Julie-T-Klein/dp/0814320880>

Thompson, J.T. (1990) *Interdisciplinarity History, Theory & Practice* Wayne State University Press: Detroit

Academic/field applied definitions



- **Multi-disciplinary** teams involve people from different disciplines.
- They agree to work as a team to create solutions for a specific issue/problem.
- Each discipline develops one or more solutions for consideration and presents these to the leader or the group for consideration.

From personal conversations between Dr. Vincent and Dr. Frank Fear

Photo: <https://www.laprogressive.com/spartan-silence/>

Multidisciplinary teams



Academic/field/applied definitions



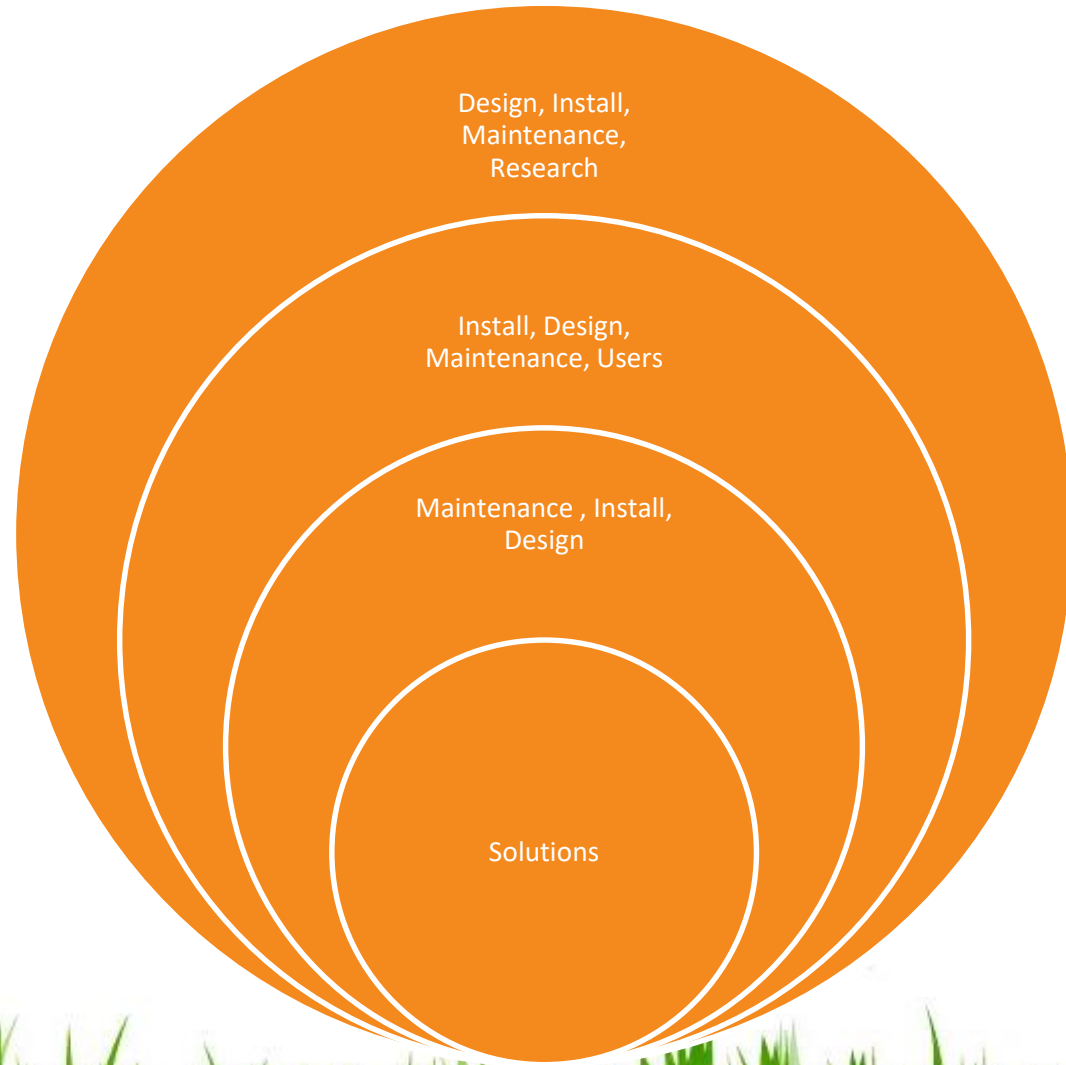
- **Interdisciplinary** teams involve people from different and varied disciplines.
- They agree to work as a team to create solutions for a specific issue/problem.
- They are willing to **learn from the other team members and change their mind** about how to solve the issue/problem.

From personal conversations between Dr. Vincent and Dr. Frank Fear

<https://www.laprogressive.com/spartan-silence/>

Interdisciplinary teams

Discipline specialists and project leaders share information with each other and seek varied perspectives



Academic/field/applied definitions



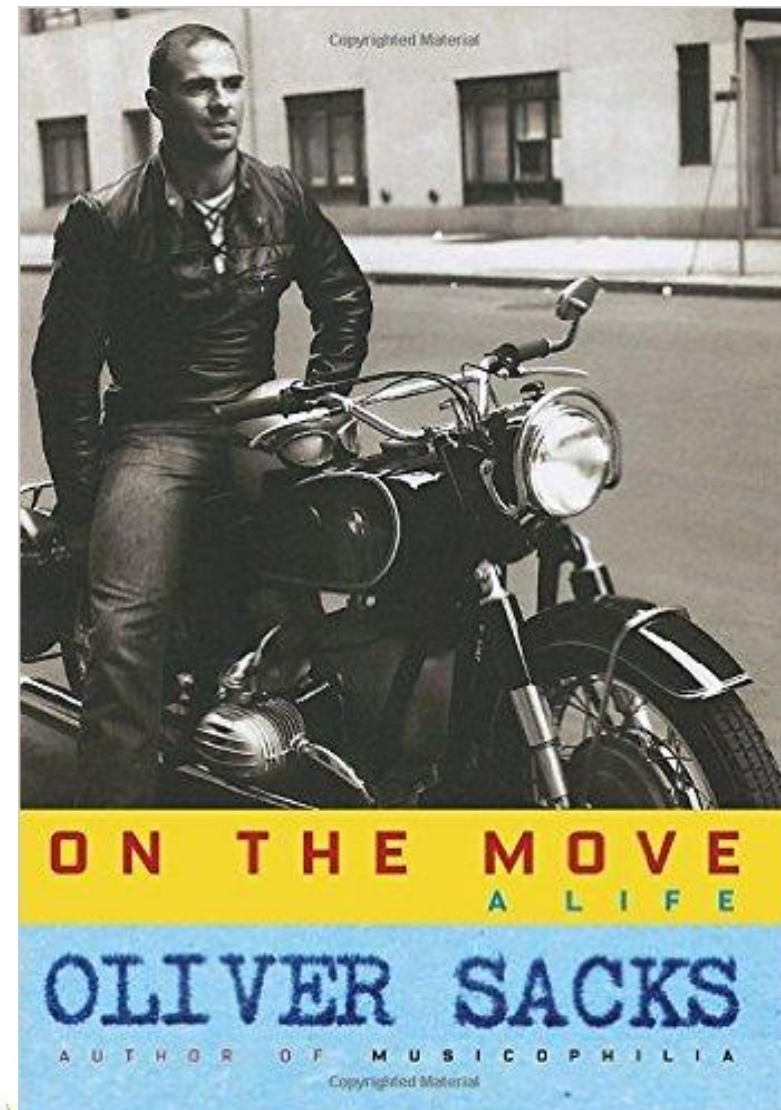
Multidisciplinary	Interdisciplinary
Relevant disciplines involved	Varied yet relevant disciplines involved
Meets at least once then continues work within one's own discipline	During group meetings seeks to learn about the problem from other people's perspectives
Submits work to leader or group for consideration	Continues to meet with larger diverse group (or relevant portions of) while developing solutions
Makes changes based on feedback	Team members have capacity to listen deeply
	Team members are willing to change their mind based on new information

From personal conversations between Dr. Vincent and Dr. Frank Fear

Photo: <https://www.laprogressive.com/spartan-silence/>

Interdisciplinary communicator: Oliver Sacks

- British neurologist, practicing physician at New York University, and acclaimed author who explored the “mysteries of the brain”.
- Wrote case studies that looked for novel connections between science and the human condition.
- He perceived resilience and beauty where few dared to look.
- Author:
 - *On the Move: A Life* (2015) Amazon \$15.68
 - *The Mind’s Eye* (2011) Amazon \$11.05
 - *Musicophilia: Tales of Music and the Brain* (2008) Amazon \$9.36
 - *The Man Who Mistook His Wife for a Hat* (1998) Amazon \$9.51

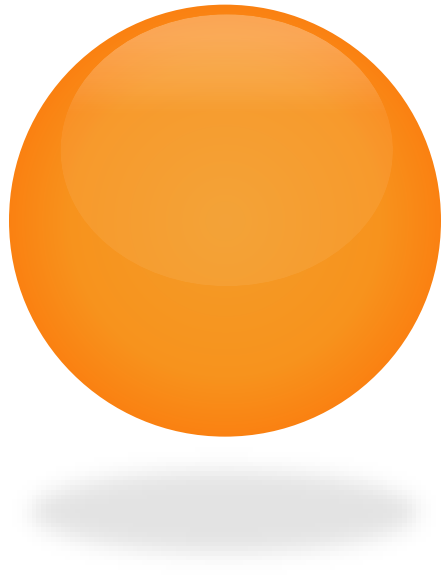


http://www.amazon.com/Minds-Eye-Oliver-Sacks/dp/0307473023/ref=sr_1_8?ie=UTF8&qid=1441062889&sr=8-8&keywords=Oliver+Sachs

http://www.amazon.com/Move-Life-Oliver-Sacks/dp/0385352549/ref=sr_1_1?ie=UTF8&qid=1441062889&sr=8-1&keywords=Oliver+Sachs&pebp=1441063394099&perid=1XHREHWVYZFZHEZ12KN87/18/2019

http://www.nytimes.com/2015/08/31/arts/oliver-sacks-wrote-awakenings-and-cast-light-on-the-interconnectedness-of-life.html?emc=edit_th_20150831&nl=todaysheadlines&nlid=52547291&_r=0

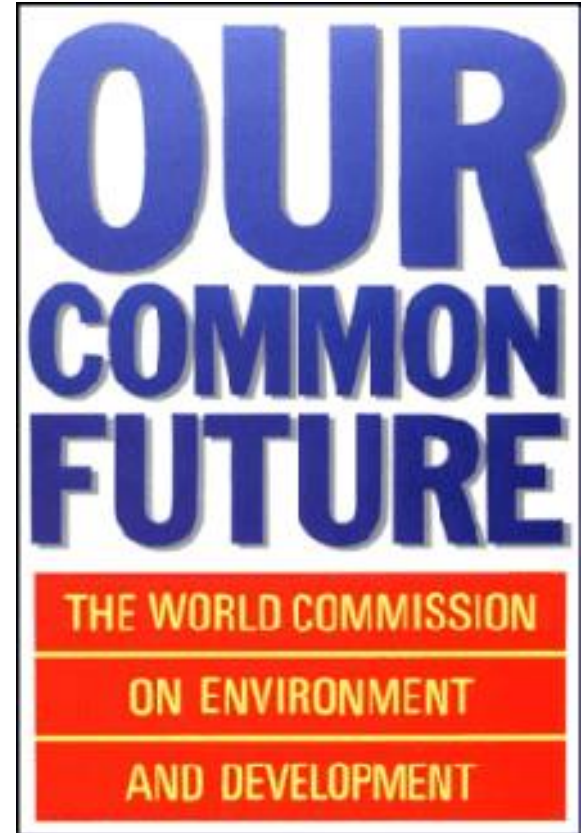
http://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-keywords=Oliver+Sachs



WHY USE INTERDISCIPLINARY WORK GROUPS IN THE CLASSROOM?

To contribute to positive solutions in the workplace and world

Sustainability defined



Gro Harlan Brundtland, Chair of World Commission; Former Prime Minister of Norway

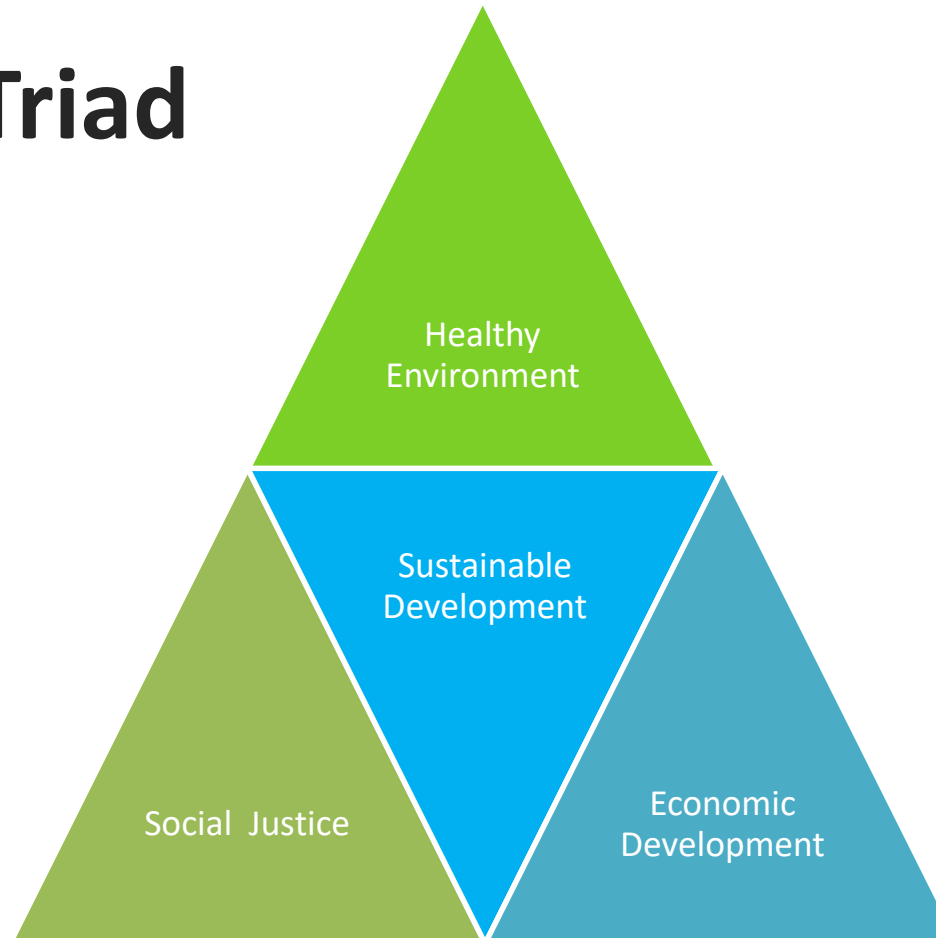
<https://www.britannica.com/topic/Brundtland-Report>

https://en.wikipedia.org/wiki/Our_Common_Future#/media/File:Our_Common_Future_book_cover.jpg

7/18/2019

Sustainable Development

Issue Triad



“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (1987, p. 8).

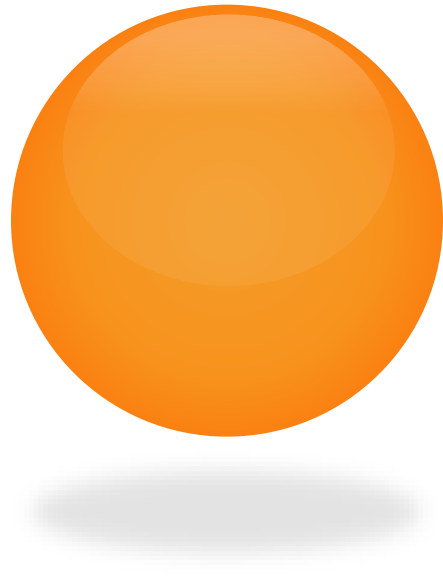
Issue triad created by E. Vincent using *Our common future* (1987) pp.37-38
The World Commission on Environment and Development (1987). *Our Common Future*. Oxford:
Oxford University Press

Shared leadership

Nelson
Mandela
convenes
The
Elders in
2007
(July 18)



http://desertpeace.files.wordpress.com/2009/09/the_elders.jpg
<https://theelders.org/nelson-mandela>



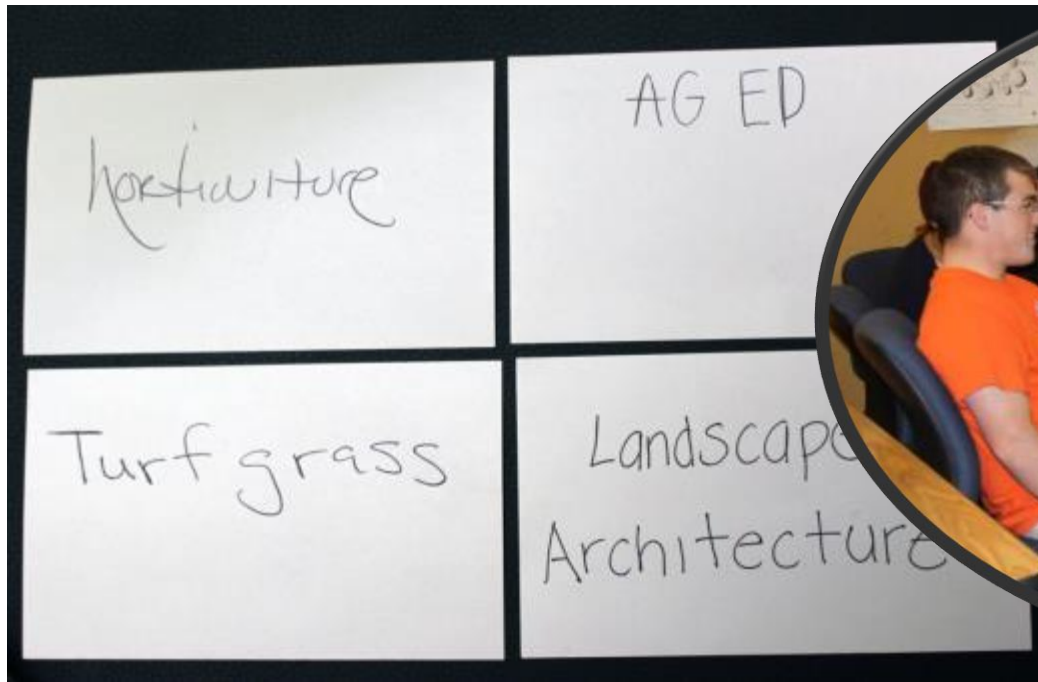
CREATING INTERDISCIPLINARY TEAMS IN THE CLASSROOM

Fair, random



Tool: Form mixed major teams

- *Form interdisciplinary teams by mixing majors*
 - *Sort by major, shuffle cards, student rep from various majors select cards for team in full view, no personal names visible*



Tool: Group exercises

- *Provide clipboards and worksheets to professionalize the experience*
- *Worksheets contain space for name and major*



Tool: Group exercises

Group exercise: Sustainable Communications | HORT

Name	Major
1 Brittany Lapple	Architecture
2 Rachel Edwards	Hort
3 Jay Gervais	Civil Engineering
4 Austin Allen	LAHC

State a claim (clear and obvious) made by authors (like a hypothesis) about engagement and/or dialogue:

In order for a group to be successful^{in a dialogue setting} every member must be included and energetically engaged, through maintenance and facilitation

Validity checks (search for truth) using three methods/sources:

1-Experiential (personal or others)

Multi- or interdisciplinary work with conflicting or multiple opinions. (e.g. lab work, architecture projects)

2-Authoritative (professors, .gov; .edu; non-profit organizations)

A contractor who has to deal with a lot of

2-Authoritative (professors, .gov; .edu; non-profit organizations)

A contractor who has to deal with and help converge ideas from a number of different professions on a daily basis.

3-Disciplined (peer reviewed lit, published surveys and experiments)

Published peer reviewed article on the subject of communication and engagement.

Alternate views/perspectives

Identify people or organizations who may disagree with the claim.

State the source of the view.

- A CEO who wants to have the final say on decisions, despite other opinions
- Control oriented people in positions of power
- A tenured professor who doesn't have Intellectual humility

HORT 3080 Group exercise: Sustainable Garden | CT2

Name	Major	Name	Major
1 Laurence Gressette	LA	3 Raye A.	LA HORT
2 Austin Allen	LA	4 Anna Fisher	Hort

Viewpoint from your discipline

Beliefs/claims (clear and obvious) of authors (like a hypothesis):

Be mindful of design process in working with other disciplines.

Methods/sources for checking validity

Experiential (personal or others):

How we feel and know about the claim through our own LA and design experience.

Authoritative (professors, .gov; .edu; non-profit organizations):

Ask professors about personal experience working w. collaboration / local consultants / viewpoints from books ^{college}

Disciplined (peer reviewed lit, published surveys and experiments):

Clemson extension for published surveys.

ASK professors about personal experience working w
collaboration / local consultants / viewpoints from books

Disciplined (peer reviewed lit, published surveys and experiments):

Clemson extension for published surveys.

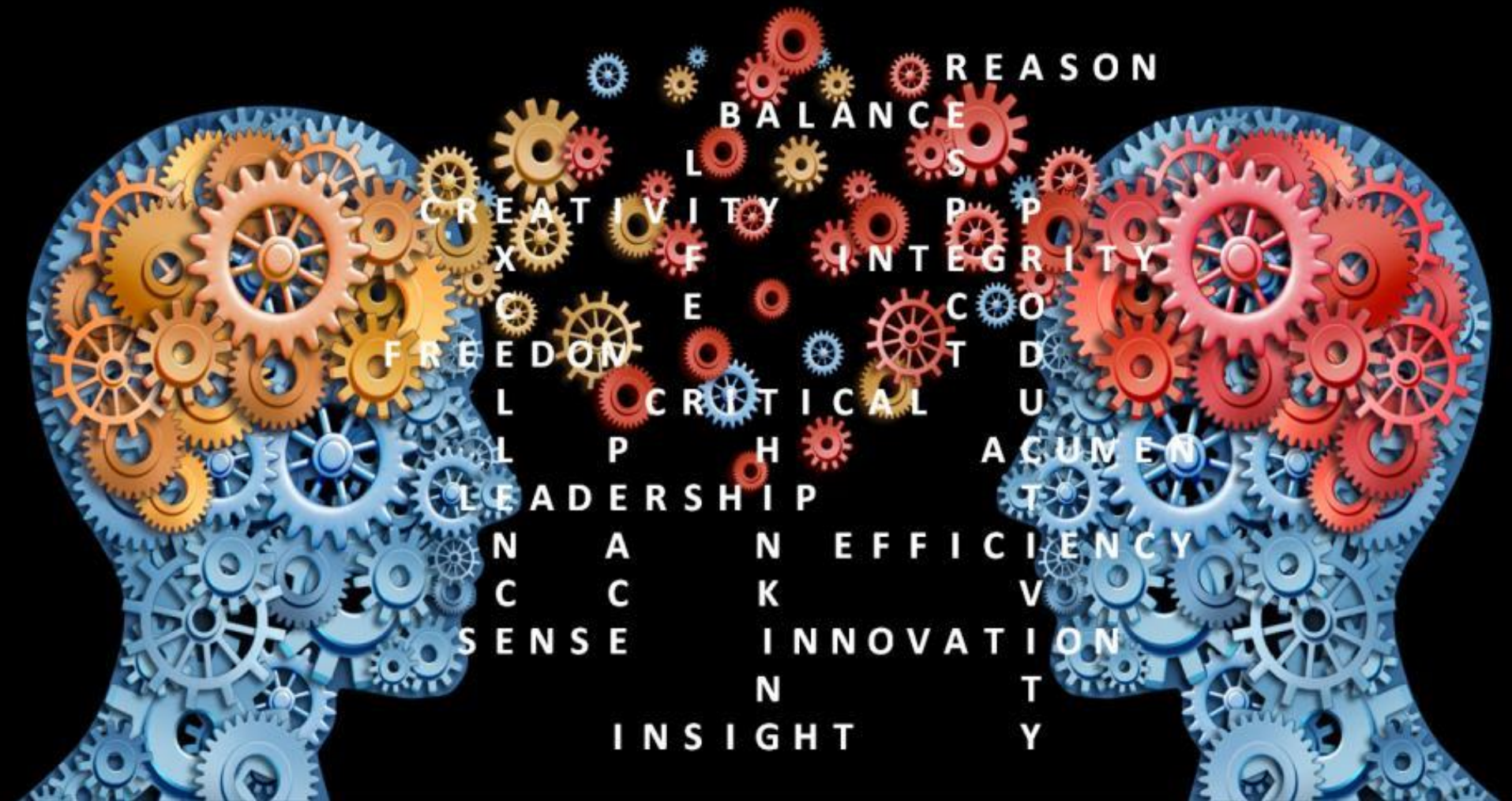
Multiple views: Perspectives (your own or imagined others) that do not support your claim. State the source of the view.



Prestigious design artists in different states or countries.

-they have been so highly regarded, they have "faith" in their design and don't plan to look and listen to outside sources.

Use reverse side if needed



Critical Thinking Visual Essay Items

1. Identify a claim/belief/assumption from the readings or class that you personally connect with.
2. Investigate the validity of the claim/belief/assumption.
3. Explore or look at the issue using multiple viewpoints.
4. Reflect from your past and tell the story.
5. Conclude with personal *informed* actions.
6. Add an image that supports your search.
7. Cite the image.

Sustainable Landscape Garden Design, Installation, & Maintenance HORT 3080

**HORT
CT²**

Critical Thinking Protocol in Visual Essay

Grading rubric: 100 points total

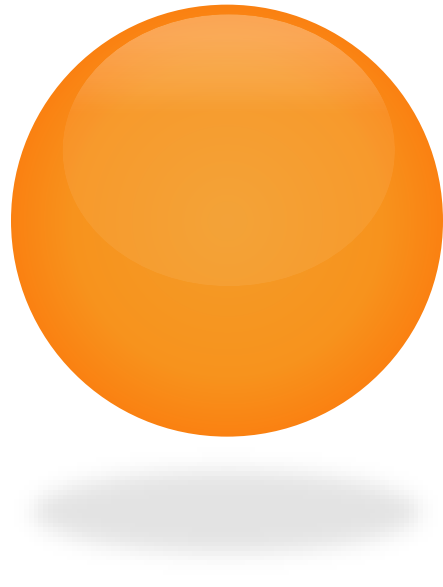
Each essay should contain a header that includes: Name; Class title; Date; CT2 Visual Essay

Save the essay with your last name and the essay # in the saved file name: e.g. Vincent_CT2 essay1

Critical Thinking Essay Item	Points
Identify a claim/belief/assumption from class or readings that you personally connect with: Identify and clearly state a specific claim/belief/assumption that you perceive. Include the source(s) you are using in the text. Do not use quotes-use your own words.	10
Investigate the validity of the claim/belief/ assumption: How can you check the author's claim/belief/assumption for accuracy and validity? Be specific and use a minimum of two methods to determine the legitimacy of the author's claims. Experiential (personal experience); authoritative voices (professors, .gov, .edu sites); disciplined (peer reviewed literature; surveys; fact checks; repetition of experiments, etc.)	20
Explore alternate possibilities/conclusions using multiple viewpoints: What other possible perspectives, explanations, or interpretations can you suggest for a deeper understanding of the claim/belief/assumption? State the source of the view.	10
Reflection from your past: Using your own personal experiences share a story from your past that was triggered by the claim/belief/assumption. Make it vivid so the reader feels as though they were there with you.	10

France





INTERDISCIPLINARY COMMUNICATION TOOLS

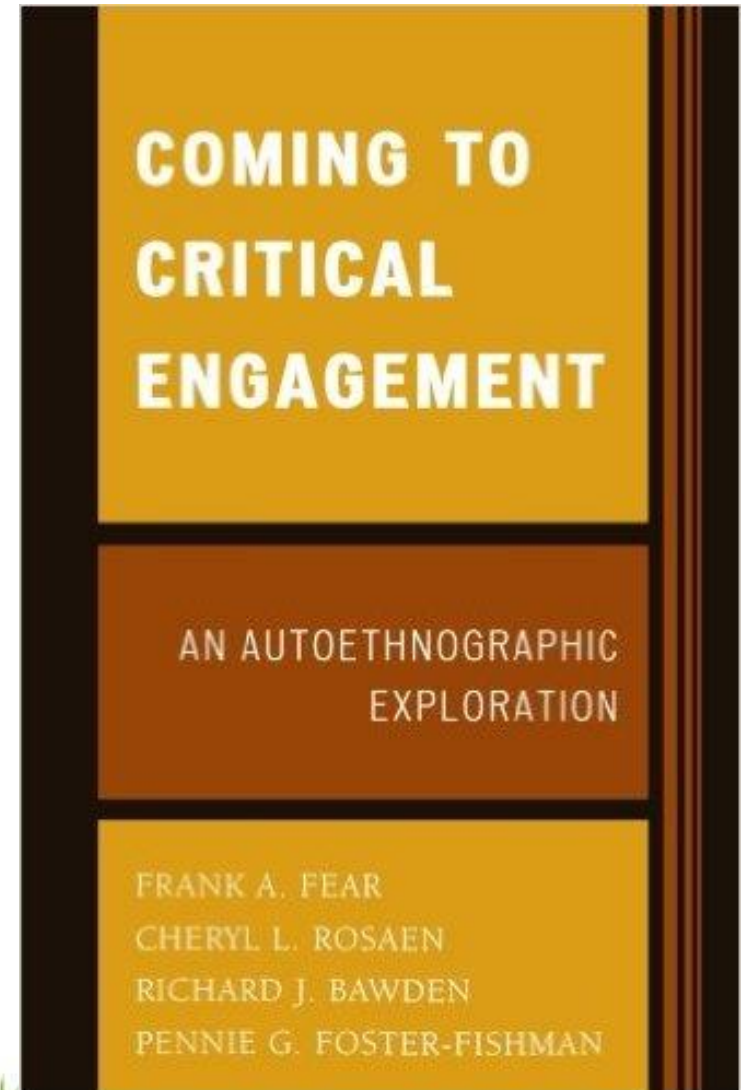
Engagement, dialogue

Engagement-Dr. Frank Fear



**Dr. Frank Fear, Professor Emeritus
Michigan State University,
engagement author; Kellogg
consultant**

Amazon \$49.88



<http://www.amazon.com/Coming-Critical-Engagement-Autoethnographic-Exploration/dp/0761834710>

HORT 3080

<https://www.laprogressive.com/author/frank-a-fear/>
<https://www.amazon.com/Coming-Critical-Engagement-Autoethnographic-Exploration/dp/0761834710>

Engagement

- *Critical*: conveys the central importance of treating **self and subject as text to be examined** (Introduction p. xiii)
- *Engagement*: is a stance which is expressed in **answers to core questions**: Why do you engage? With whom do you engage? Towards what tend do you engage? How do you engage? (p. xiii)
- *Communities of practice* are grounded in a theory of engaged learning: learning is social: members learn with others; from others, and through others...Engagement involves trust and shared leadership (Introduction, p.xvi)

Fear et al., 2006. *Coming to critical engagement*. University Press of America

Engagement

- ...“Grounded in an ethos of **mutuality, respectfulness, and stewardship**, proceeding through dialogue, and fostering inclusive well being.”
- Engagement is a way of being- both on campus and off-energized by the norms of engagement.
- Framed this way, engagement becomes a leadership and management practice.--*Dr. Frank Fear*

Engagement

- “Engaged learning is an approach, an expression of being, a leadership ethic, and a way for scholars, practitioners, and administrators to connect otherwise diverse activities thematically, coherently, and meaningfully.”

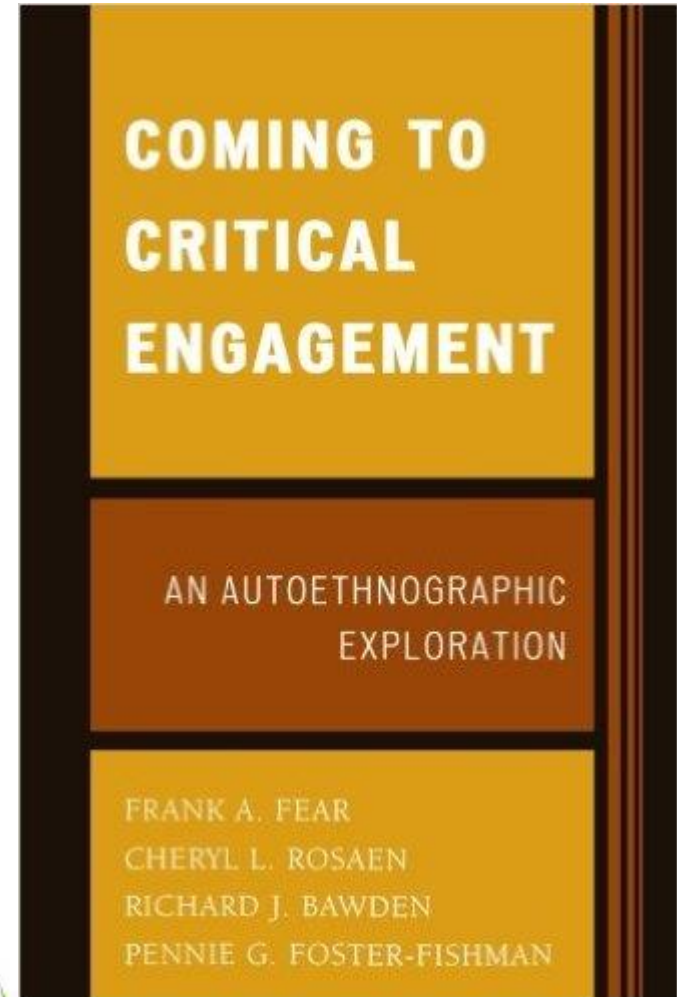
» -Frank Fear et al., 2002. *A Model of Engaged Learning: Frames of Reference and Scholarly Underpinnings*. Outreach Scholarship Conference

Engagement

- Be a learner in your group rather than an **expert** Fear, F., et al. (2002). Experiencing engagement: **Stories from the field.** *Journal of Higher Education Outreach and Engagement*, 8(1), 59-74.
- If you are accomplished in a discipline or area consider yourself a specialist instead of an **expert** (Denny, personal communications, 2006).
- Stay open to outcome, i.e. allow your mind to be changed (Arriens, A., workshop, 2004).

Engagement

Dialogue is essential to successful engagement.



<http://www.amazon.com/Coming-Critical-Engagement-Autoethnographic-Exploration/dp/0761834710>

HORT 3080

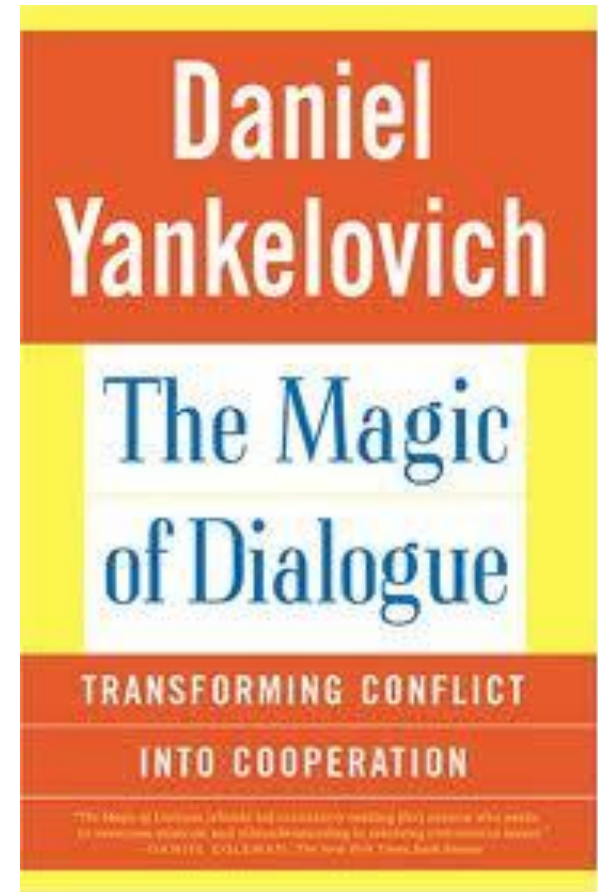
Dialogue: Daniel Yankelovich

<http://www.strategy-business.com/media/image/05309.jpg>



**Daniel Yankelovich
(1924-2017)**

- Graduate School of Arts and Sciences, Harvard University (Rantoul Fellow in Clinical Psychology); Director, UCSD Civic Collaborative, University of California at San Diego
- Recipient, Common Ground Book of the Year Award (for *The Magic of Dialogue*), 1999
- Trustee for 11 major firms & Board of Director on 7 major corporations
- Chairman: The Public Agenda; DYG; Viewpoint Learning



http://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Dstripbooks&field-keywords=The+magic+of+dialogue

Amazon \$15.99

Dialogue: 3 core components

- Equality
- Empathetic listening
- Airing assumptions and not judging them (or the speaker)



http://www.google.com/imgres?imgurl=http://www.publicagenda.org/files/images/pages/Yankelovich_Claremont_110808.jpg

Yankelovich, D. (1999). *The Magic of Dialogue*, p. 46. New York: Schuster
Video: Jan31, 2012 https://www.youtube.com/watch?v=mgWUjBj_32s

HORT 3080

- [illegible]

Dialogue

- (3) Bring assumptions into the open: Examine one's own and other participants assumptions. Once exposed (in the open) treat them with respect.

“When your deepest-rooted assumptions about who you are and what you deem most important in life are attacked, you react as if you were attacked personally.” —David Bohm

Yankelovich, D. (1999). *The Magic of Dialogue*, p. 46. New York: Schuster



<http://c.tadst.com/gfx/750x500/sunrise.jpg?1>



<http://globe-views.com/dcm/dreams/storm/storm-04.jpg>



Photo by Ellen Vincent

County Mayo, Ireland

Dialogue vs debate

Dialogue	Debate
Assuming many people have pieces of the answer and that together they can craft a solution.	Assuming that there is one right answer and you have it.
Is collaborative: participants work together toward common understanding.	Is combative: participants attempt to prove the other side wrong.
About exploring common ground.	About winning.
Listening to understand, find meaning and agreement	Listening to find flaws and make counter-arguments.

Yankelovich, D. (1999). *The Magic of Dialogue*, pp. 39-40.
New York: Schuster

Dialogue vs debate

Dialogue	Debate
Revealing assumptions for reevaluation.	Defending assumptions as truth.
Reexamining all positions.	Critiquing the other side's position.
Admitting that others' thinking can improve on one's own.	Defending one's own views against those of others.

Yankelovich, D. (1999). *The Magic of Dialogue*, pp. 39-40.
New York: Schuster

Dialogue vs debate

Dialogue	Debate
Searching for strengths and values in others' positions.	Searching for flaws and weaknesses in other positions.
Discovering new options, not seeking closure.	Seeking a conclusion or vote that ratifies your position.

Yankelovich, D. (1999). *The Magic of Dialogue*, pp. 39-40.
New York: Schuster

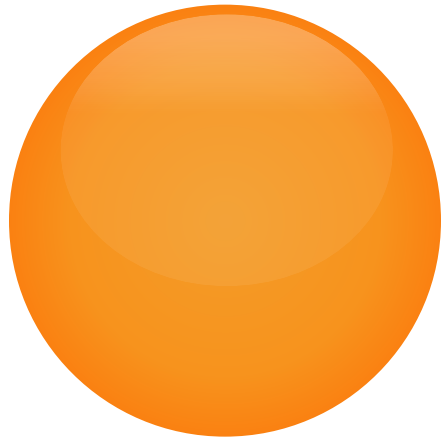
Dialogue vs debate group exercise

- When do you recall experiencing dynamic dialogue?
- Share your recollection with your neighbor.



Community Garden Berkeley, CA

Photo by Ellen Vincent



REAL PEOPLE IN THE CLASSROOM

To make critical thinking relevant

Test 1 question #88

"I am intrigued by listening to others, esp. those with experiential or authoritative influence such as Ricardo Urbina. Its interesting to see how they think/develop ideas."
(Architecture)



Retired
Federal
Court Judge
Ricardo
Urbina

<https://static01.nyt.com/images/2008/10/08/us/judge190.jpg>

https://www.propublica.org/projects/detention/judges/ap_urbina_200x300_100122.jpg

Chimamanda Ngozi Adichie

Chimamanda Ngozi Adichie

- Nigerian award winning author, educated at Yale
- [TED Talk: The danger of a single story](#) (18.49)
- Awarded MacArthur Genius Grant 2008
- [YouTube: Harvard 2018 Commencement Address](#)

<https://www.youtube.com/watch?v=hrAAEMFAG9E>



https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story?language=en

https://pi.tedcdn.com/r/pet.tedcdn.com/images/ted/3527cd41287ab9d66473e112dbd339c6e515ef38_1600x1200.jpg?quality=89&w=800

<http://2.bp.blogspot.com/-YznGKlErV4/U4HQsluLVmI/AAAAAAAAAEIY/X1olwTpVfzk/s1600/adichie2.jpg>

David Brooks

David Brooks

- Op-Ed columnist NY Times
- Commentator on PBS NewsHour, NPR's "All Things Considered" and NBC's "Meet the Press."
- Award winning author
- Instructor at Yale
- *The Danger of a Single Story* NY Times (April 19, 2016)
<https://www.nytimes.com/2016/04/19/opinion/the-danger-of-a-single-story.html>



Daniel Yankelovich

YouTube video:

- CEO Profile: Daniel Yankelovich
Founder & Chairman Public
Agenda

DYG, Inc. Viewpoint Learning, Inc
Anaheim University (2012)

https://www.youtube.com/watch?v=mgWUjBj_32s



YouTube video:

- Toward a More Just and Effective
Democracy- Celebrating the Life
and Work of Daniel Yankelovich

[PublicAgendaOnline](https://www.youtube.com/watch?v=RHpHREVVHGM0) Mar 6, 2018

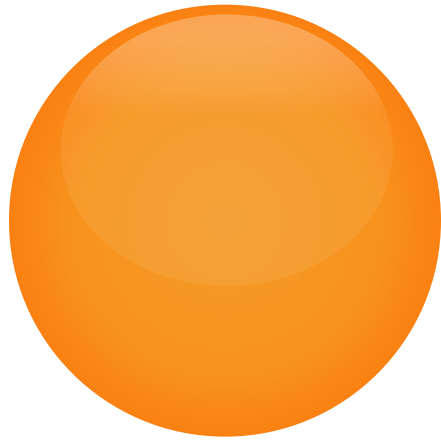
<https://www.youtube.com/watch?v=RHpHREVVHGM0>



HORT 3080

https://www.google.com/search?q=daniel+yankelovich&rlz=1C1CHBF_enUS783US783&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiH7Znsw5TcAhVjnuAKHZO3CTkQ_AUICygC&biw=901&bih=1087#img=TM6Lkb7qWqliFM

https://www.google.com/search?q=daniel+yankelovich&rlz=1C1CHBF_enUS783US783&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiH7Znsw5TcAhVjnuAKHZO3CTkQ_AUICygC&biw=901&bih=1087#img=TM6Lkb7qWqliFM



EXIT SURVEY RESPONSES



Exit survey student responses

What one belief/thought has changed or altered as a result of taking this class?

- *“Listen to other people because they have opinions that matter.”* FORESTRY
- *“Being open to listen and plan with the landscape maintenance team during the planning stages.”* HORTICULTURE
- *“That all majors and disciplines are capable of working in a group and learning from each other.”* ANTHROPOLOGY

Exit survey student responses

What one belief/thought has changed or altered as a result of taking this class?

- *“I have become more open to others’ opposing viewpoints on controversial topics.”*

AGRICULTURE EDUCATION

- *“I learned to be open-minded. I have learned to look at things from a different perspective than just my own. There are 2 or more sides to every story.”* TURFGRASS

Exit survey student responses

What one belief/thought has changed or altered as a result of taking this class?

- *“I now use empathy when listening to other people’s viewpoints. I now look at a person’s viewpoint with a better understanding of how they feel about an issue.”* HORTICULTURE

Exit survey student responses

What one belief/thought has changed or altered as a result of taking this class?

- *“Personally, my outlook to the overall design process has shifted to a more sustainable mindset. To get all parties involved in the design process from the beginning will save a lot of hassle on the back end of the install and maintenance.”* ARCHITECTURE

Exit survey student responses

What one belief/thought has changed or altered as a result of taking this class?

- *“That I need to [take] into account other peoples thoughts and feelings more.”*
TURFGRASS
- *“I take working in groups [to be] more intriguing and helpful. I get to see how others think.”* HORTICULTURE

What one practice/behavior has changed or altered for you as a result of taking this class?

- *“The ability to think from more than one perspective.”* AGRICULTURAL MECHANIZATION
- *“I am a better critical thinker because of my ability to listen and fair mindedness I learned from this class.”* AGRICULTURAL EDUCATION

Exit survey student responses

What one practice/behavior has changed or altered for you as a result of taking this class?

- *“Working in interdisciplinary groups is a relatively new concept for me. Throughout this class my openness to other viewpoints has changed during the duration of this class.”*

ARCHITECTURE

- *“Working in groups and being fair minded with everybody.”* HORTICULTURE

Exit survey student responses

What one practice/behavior has changed or altered for you as a result of taking this class?

- *“The ability to collaborate with multiple disciplines.”* ARCHITECTURE
- *“Group work”* MARKETING/MGT
- *“I will listen to everyone’s opinions with a more open mind.”* AG EDUCATION

Ellen Vincent, Ph.D.

Senior Lecturer Horticulture
Environmental Landscape Specialist

CT2 Faculty Scholar 2014-2019
CAFLS Excellence in Teaching 2015
ISA Certified Arborist

Horticulture Program /PES Dept.
173 Poole Agricultural Center
Box 340310
Clemson, SC 29634-0310

864.656.1342 (office)
803. 243.8888 (cell)
864.656.4960 (FAX)
ellenav@clemson.edu
<http://www.clemson.edu/cafls/research/vincent/>
<http://www.clemson.edu/cafls/demo/>



Photo by Craig Mehaffey