Does Imagination Alter Reasoning?
A Dialogue on the Role of Imagination in Critical Thinking

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Overview

• Goals and Objectives
• Conventional Contexts
• Shifting Context → Liberatory Modes
• Application → Case Example: Ethics Module
• Discussion → Implications for Classroom Praxis
Objectives

- To foster a conversation about incorporating liberatory modes of reasoning into critical thinking paradigms.
- To gather reactions and suggestions for converting theoretical resources into classroom praxis.
- To move liberatory critical thinking resources into mainstream STEM education.
Critical Thinking - Conventional Contexts
Critical Thinking: Conventional Perspectives

• “reasonable reflective thinking focused on deciding what to believe or do” (Ennis, 1989)

• “reflective scepticism” (McPeck, 1981)

• “skillful, responsible thinking that facilitates good judgment because it (1) relies upon criteria, (2) is self-correcting, and (3) is sensitive to context” (Lipman, 1988)

• “disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought …” (Paul, 1992)

• “… an embodiment of the ideal of rationality” (Siegel, 1980)
Discourse and Perspectives on Critical Thinking

• Generalized vs. subject-specific?
• Skills vs. dispositions?
• Process vs. product?
• Reasoning, judgement, reflection, ethical reasoning, or…?
Implications for the Classroom

- Generalized vs. subject-specific?
- Skills vs. dispositions?
- Process vs. product?
- Rationality, judgement, reflection, ethical reasoning, or…?

How have educators operationalized these perspectives?
- Problem based learning
- Active learning
- Socratic questioning method
- Writing assignments
- Emphasis on judgment and problem solving skills
- Integrating liberal education
- …
Shifting to Liberatory Modes
In pairs or groups of three...

1) Have you ever taken a course specifically dedicated to the study of liberation? (i.e. in the course title, as the primary focus)

2) To what does “liberation” refer?
Liberatory Praxis and Theory in 19th & 20th Century Decolonial Movements

- Before and then following the formal end of slavery in the United States, abolitionists adopted liberatory perspectives on morality, politics, economics, etc.
- In the late 19th and early 20th Centuries, various figures incorporated liberatory praxis into social discourses, philosophy, and other activist and intellectual projects, including decolonial/decolonization campaigns in some regions.
- In the early and mid 20th Century, liberation theologians reclaimed and reinterpreted Judeo-Christian religions canon as fundamentally liberatory in order to advance decolonization efforts in South America, Latin America, Central America.

(Matheis 2015)
Liberation

Expand the order of influences:
- [-] Ethico-Politico-centric paradigm treats liberation as the outcome or end result of political, ethical, economic, epistemic improvements -- i.e. work for social justice, achieve liberation.
- [+1] Study of liberatory movements shows that liberatory praxis (action) and theory serve also, perhaps more pressingly, as the vanguard of changes to moral, political, economic norms -- i.e. work from liberatory priorities and objectives to achieve social

Priority of Liberation:
- Respect for Alterity, for the fact that people remain, to some extent, mysteries to one another.
- …in other words: cultivating positive regard for complex differences among persons and groups

Objectives:
- Challenge Legitimacy: questioning/challenging claims to moral, political, economic power/rule
- Ending Patterned Cruelties/Suffering: putting any dominant system or ruling system in the service of ending patterned suffering.

Liberatory Reasoning -- additional modes:
- Imaginal: cognitively+affectively imagining alternatives to past, present, and probable future (not mere creativity)
- Relational: in practical terms, liberation likely depends on prioritizing relationships despite countervailing incentives and disincentives.
Authentic thinking, thinking that is concerned about reality does not take place in ivory tower isolation, but only in communication. If it is true that thought has meaning only when generated by action upon the world, the subordination of students to teachers become impossible. (Freire, 2005)

...the capacity to see in surface phenomena the meaning of deeper realities, to see the deep structure below the surface. It is an instant sensing, a quick perception arrived at without conscious reasoning. It is an acute awareness mediated by the part of the psyche that does not speak, that communicates in images and symbols which are the faces of feeling, that is, behind which feelings reside/hide. The one possessing this sensitivity is excruciatingly alive to the world. (Anzaldúa, 1987)

This visual intuitive sense, like the intellect of heart and gut, reveals a discourse of signs, images, feelings, words that, once decoded, carry the power to startle you out of tunnel vision and habitual patterns of thought. (Anzaldúa, 2002)

La mestiza constantly has to shift out of habitual formulations; from convergent thinking, analytical reasoning that tends to use rationality to move toward a single goal (a Western mode), to divergent thinking, characterized by movement away from set patterns and goals and toward a more whole perspective, one that includes rather than excludes. (Anzaldúa, 1987)

...thus it becomes necessary, not precisely to deny the fact, but to see it differently. This rationalization as a defence mechanism coincides in the end with subjectivism. A fact which is not denied but whose truths are rationalized loses its objective base. It ceases to be concrete and becomes a myth created in defence of the class of the perceiver. (Freire, 2005)

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Liberatory Struggle and Critical Thinking

Conscientization (Freire)

Conocimiento (Anzaldúa)

Relation
Relational

Imagination
Imaginal
Ethics in Engineering - A Prototype/Test Case
Module Overview

Ethics Discussion
Friday, July 20, 2018
NSF REU Program- Interdisciplinary Water Science and Engineering

I. Opening and Introductions

II. Freewrites
   What role do you think you can play in diminishing human suffering?

III. Purpose/Objectives
   A. To think about the role of science and engineering profession/discipline in diminishing human suffering
   B. To imagine future/consequences of actions
   C. To imagine being someone else

IV. Ethical Theory and Ethical Reasoning
   A. Reading: Barbara MacKinnon: “Ethics and Ethical Reasoning” (3-10).
   B. Emphasis on ethical reasoning
   C. Role of imagination

V. Cycle of Bias
   A. Stereotype
   B. Prejudice
   C. Discrimination

VI. Freewrite
   Thoughts and feelings about others who are different from you

VII. Institutional Culture/Power
   A. Truth and loyalty
   B. Brief note on whistleblowers
   C. Scenario- Write up

VIII. Systematic Oppression
   Reading: Ursula Le Guin: “The Ones Who Walk Away From Omelas”

IX. Freewrite
   A. Imagine what you experience in this situation
   B. Imagine yourself as different individuals

X. Cases
   A. Fish consumption rate
   B. Environmental injustice- hazardous facilities

XI. Closing

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Assessment / Evaluation of the Module -- Sample Comments

“I was introduced to ideas I often rarely thought about and how to think more ethically when making decisions, especially should such decisions.”

“My takeaway is that ethics is not black and white, there are many complicated layers and perspectives involved in ethics.”

“Good intentions, mindfulness, and being socially aware are extremely important within professional settings. Respect for others and having human decency is extremely important for successful matriculation through personal and professional settings in life.”

“...has really been incredible in his discussions with us, the ethics discussion we did on July 20th really so eye opening and something that is often ignored during most undergraduate curriculums. So I am glad that in an informal setting I gained a better experience as opposed to my paid education.”

“The ethics discussion section was very uncomfortable because I did not enjoy the Omelas reading passage. I'm not saying this session should be removed or changed. I may not have enjoyed the Omelas reading passage, but I do think it was important to read.”

“I think that the ethics discussion was important and elaborated on the small presentations gone over in my school classes.”

“I really really enjoyed it. Again, I think it was extremely beneficial because most of us lacked ethics classes/discussions in our educations.”
Imaginal

Relational

Solidarity

Understanding

(Mestisaje)

mixed heritage, many cultures

negotiating multi-cultures

shifting social positions

positioning yourself

one culture

between one among one's own group

between the cracks

(Anzaldúa, 2015)
What are the implications for the teaching of design, and the stakeholders we imagine (or not) when we design?
Discussion and Questions
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Works Cited

• Ennis, R.H. (1989). Critical thinking and subject specificity: Clarification and needed research, Educational Researcher, 18, 3, 4-10.