EcoTypes 2017-18: Expanding Ideas, Discovering Disagreement, Practicing Engagement

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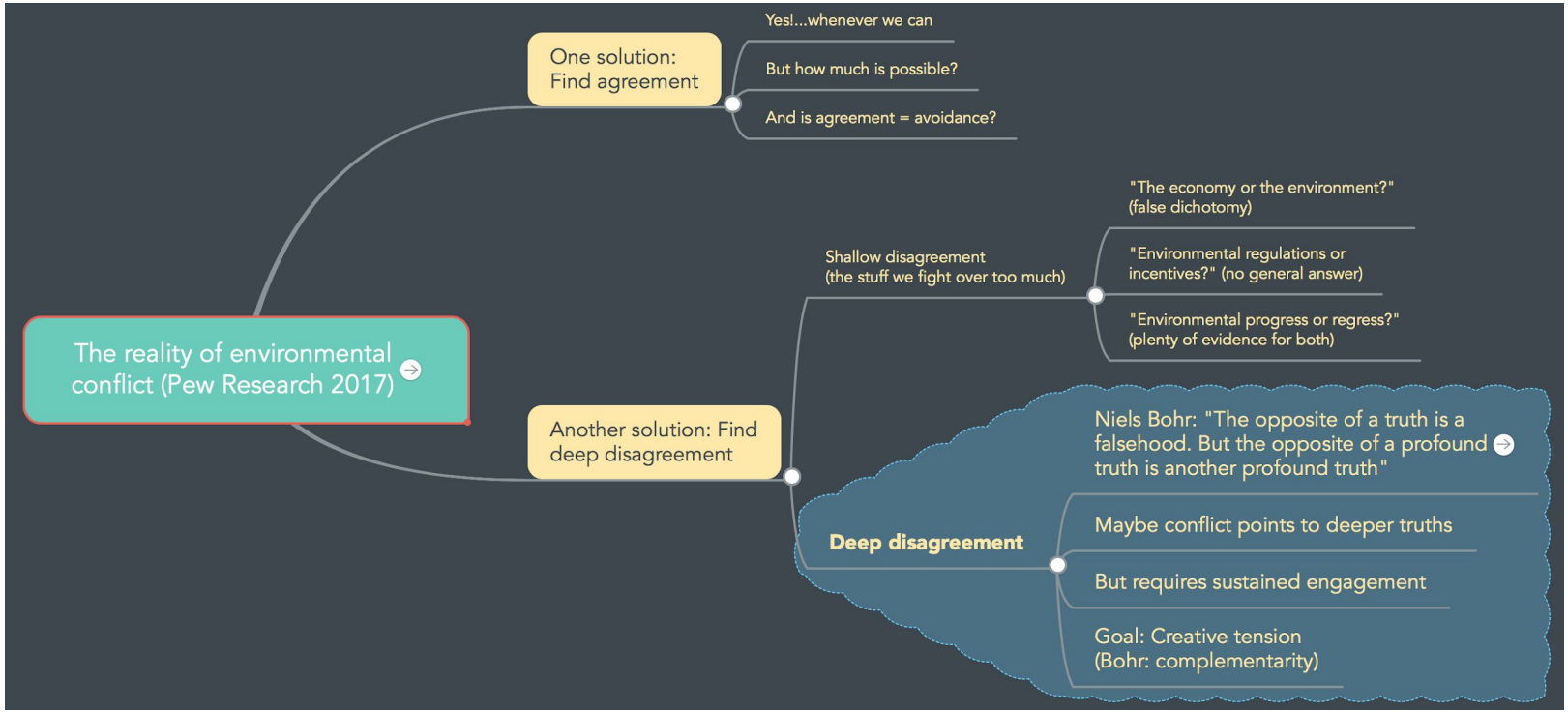
Broad Motivation: Discover Deep Disagreement



See original mindmap for links

Teaching Motivation: Expand Our Circle of Ideas

- NEP (Dunlap 1978–): Normative typology*
  a. Inherent balance of nature
  b. Existence of limits to growth
  c. Anti-anthropocentrism
  d. Rejection of “human exceptionalism”
  e. Possibility of impending ecological crisis
- Effects of this limited circle of ideas
  a. Students are taught what to think, not how to think
  b. No room for diversity of ideas among students
  c. No room to appreciate ideas outside the classroom
  d. No skills in having a conversation across difference
  e. “Inclusion & Legitimacy”: Challenges of expanding the circle

*See [this EcoTypes resource]() for discussion of enviro typologies

The New Environmental Paradigm Scale: From Marginality to Worldwide Use

Riley E. Dunlap

ABSTRACT: The New Environmental Paradigm (NEP) Scale, published in *The Journal of Environmental Education* by R. E. Dunlap and K. D. Van Liere (1978), has become the most widely used measure of environmental concern in the world and been employed in hundreds of studies in dozens of nations. This article tells the story of the NEP Scale, beginning with how the author developed the notion of an environmental paradigm and then decided to measure it. The author describes the original NEP Scale and its 3 revisions, 1 of which is rapidly replacing the 1978 version in most studies. The author then reviews current uses of the various NEP Scales and examines major criticisms of them. Last, the author discusses the failure of an ecological worldview to become institutionalized in the United States, stemming from intense opposition to it since the 1990s, and the need to understand the sources of this opposition and monitor the situation.

KEYWORDS: ecological worldview, New Ecological Paradigm, New Environmental Paradigm, New Environmental Paradigm Scale

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RESEARCH PAPER

Assessing the Diversity of Contemporary Environmentalism: Time for a New Paradigm

Jennifer M. Bernstein[1] · Brian Szuster[2] · Li Philips[2]

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Abstract The New Environmental Paradigm scale (NEP) is the most widely used measure of environmental attitudes globally, consisting of 15 unidimensional question items. Given the increased diversification of the environment movement in the 40 years since the NEP was introduced, this study used quantitative and qualitative methodologies to explore environmentalism’s heterogeneity and suggest areas in which the NEP might be modified. We fielded short surveys containing the NEP question items, and conducted in-depth, open-ended repertory grid interviews to supplement the survey data and minimize the priming influence of the researchers. Participants, despite harboring construct development in traditional survey data collection. Further research could operationalize these findings with the goal of establishing a valid and reliable measure that expresses the diversity of contemporary pro-environmental attitudes.

Keywords New Environmental Paradigm scale · New Ecological Paradigm scale · Social movements · Content analysis · American environmentalism · Repertory grid · Personal construct theory · Environmental attitudes

Environmental Ideas: Many!

Anthropocene

Limits to growth

Kuznets curve

Vulnerability

Uncertainty

Jevons paradox

Tragedy of the commons

Indigenous knowledge

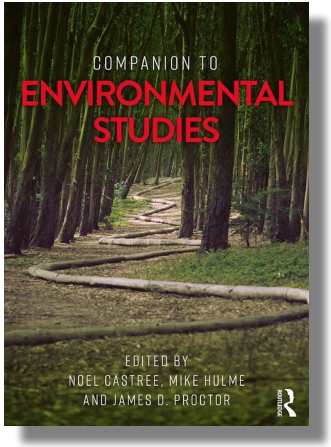
Hazards

Sustainability

Bioregionalism

Wilderness

Modernization



From Castree, Hulme, & Proctor 2018

Carrying capacity

Nature

Disturbance

Offsetting

Political ecology

Ecocriticism

Feedbacks

Queer ecology

Resilience

Globalization

EcoTypes: Three Bridges

Research ⟷ Education

Numbers ⟷ Ideas

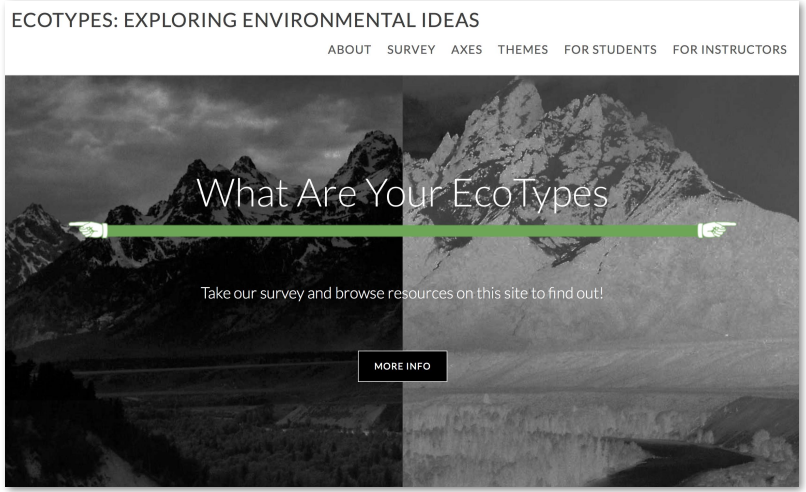
Broad Concepts ⟷ Specific Topics

EcoTypes Strategy

1. Focus on *ideas among students* to create a collaborative learning resource
    - 2018-19 EcoTypes survey/resource site: jimproctor.us/ecotypes
    - 2017-18: 1086 survey completions from across US; **1009** (N) elected to store/share data
2. Start with a *much broader set* of ideas than predecessors
    - E.g., New Environmental Paradigm Scale (Dunlap 2008): More a snapshot of 1970s norms than a comprehensive suite of environmental ideas (see Bernstein et al. 2017). Or, see Integral Ecology (Esbjörn-Hargens and Zimmerman 2009): two-dimensional reductionism.
    - 2017-18 EcoTypes axes: Aesthetics, Change, Domain, Ethics, Future, Nature, Science, Social Scale, Society, Spatial Scale, Spirituality, Technology, Time (13 axes x 4 statements each)
3. *Analyze student responses* to discover underlying themes/structure
    - Factor analysis: (a) group *common variables*; (b) identify *most important differences*
    - Create empirically based opportunity for students to compare their results etc.

EcoTypes Limitations

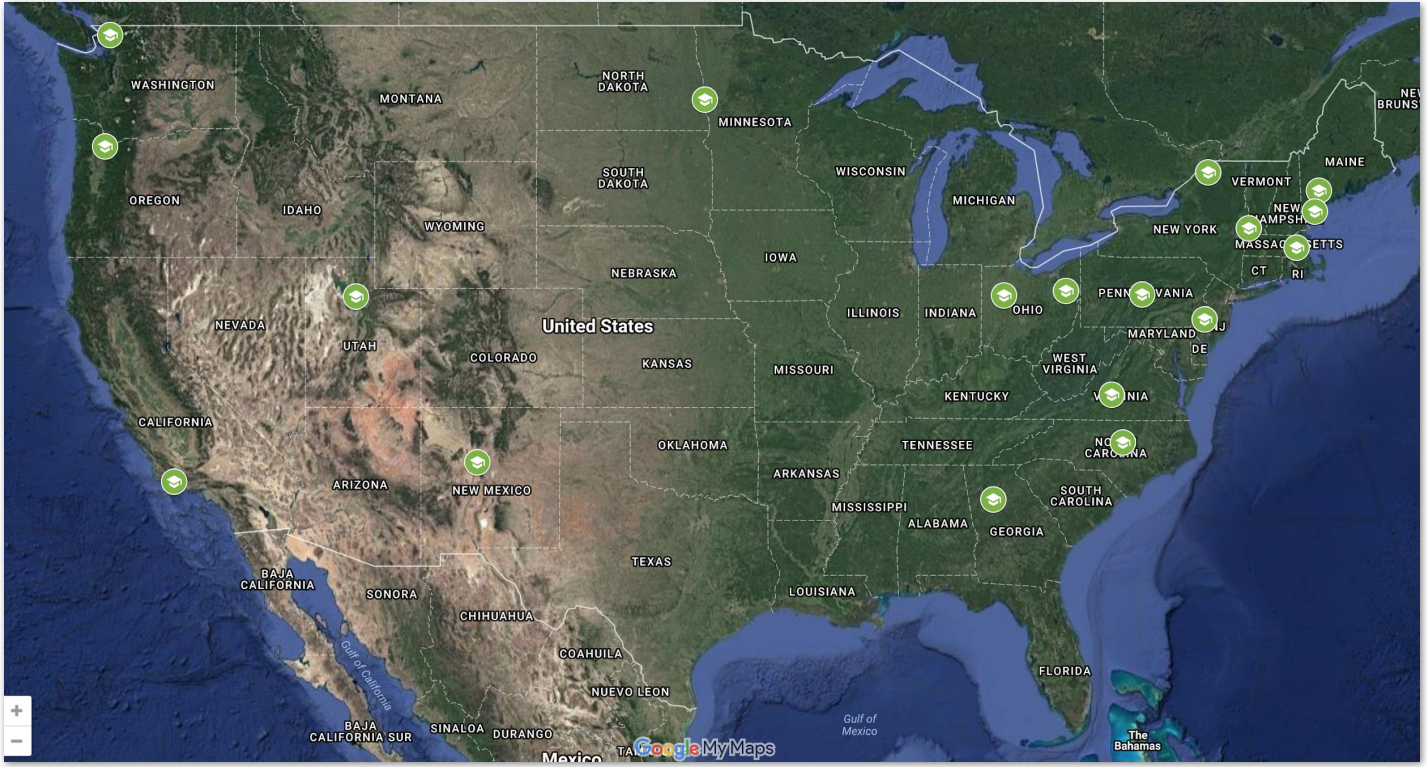
- Non-representative/repeat sample
  - Though we know demographics
  - Thus: structure of *their* ideas
- Limited instrument
  - E.g., no Diversity axis yet (social desirability bias)—though please take draft axis survey
  - But 13 axes >> typical enviro survey
- Oppositional poles; Likert responses
  - Pros/cons of close-ended choices
  - Pros/cons of either/or conceptualization



EcoTypes 2017-18 Axis Summary

Axis	Poles	Key Question
Aesthetics	Wild vs. Crafted	Is beauty primarily to be found in untouched, wild nature, or in landscapes crafted by humans?
Change	Incremental vs. Radical	Can we achieve desired environmental change incrementally, or is more radical change needed?
Domain	Ideal vs. Material	Should we approach environmental issues [via] ideas and beliefs, or on material practices and behaviors?
Ethics	Biocentric vs. Anthropocentric	Should we care about the nonhuman world for its own sake, or for how it serves human interests?
Future	Crisis vs. Possibility	Is our ecological future most likely one of looming crisis, or of possibility for positive change?
Nature	Pure vs. Hybrid	Is the nonhuman realm typified by its own ... order and harmony..., or is it now fully ... interwoven with humanity?
Science	Alternative vs. Mainstream	Should we trust the ecological findings of alternative claims to truth, or those of mainstream science?
Social Scale	Individual vs. Institutional	Can individual-scale practices make an ecological difference, or should we focus on key institutions?
Society	Consensus vs. Conflict	Should environmental action build on social consensus, or [are] social difference and conflict are inevitable?
Spatial Scale	Local vs. Global	Is environmental action best taken at local scales, or do we need to find ways to act globally?
Spirituality	Sacred vs. Secular	Is it best to approach environmental issues from a sacred perspective or a secular perspective?
Technology	Technophobic vs. Technophilic	Should we be afraid of technology in ... environmental issues, or should we welcome technological solutions?
Time	Past vs. Future	Should we look back to more harmonious times in past to find environmental solutions, or ... move into the future?

Participating Institutions (18 in 2017-18)



–Agnes Scott College
–Bates College
–Bennington College
–Boston College
–Clarkson University
–Concordia College
–Lewis & Clark College
–North Carolina State Univ.
–Ohio Northern University
–Penn State University
–Randolph College
–Santa Barbara City College
–Temple University
–University of Mount Union
–University of New England
–University of New Mexico
–Western Washington Univ.
–Westminster College

Participant Variables

Given limited time, see these links for participant variables

- Background: gender, race/ethnicity, community size, socioeconomic class, political inclination, student class level, major field of study
- Cultural cognition (Kahan 2008): individualism vs. community; egalitarianism vs. hierarchy. Development of grid-group theory
- Polarity: Proportion of strongly agree/disagree responses

Do You See Possible Connections?

Aesthetics

Future

Domain

Nature

Change

Ethics

Science

Society

Technology

Spirituality

Social Scale

Time

Spatial Scale

See EcoTypes site for downloadable worksheet

Correlation Results

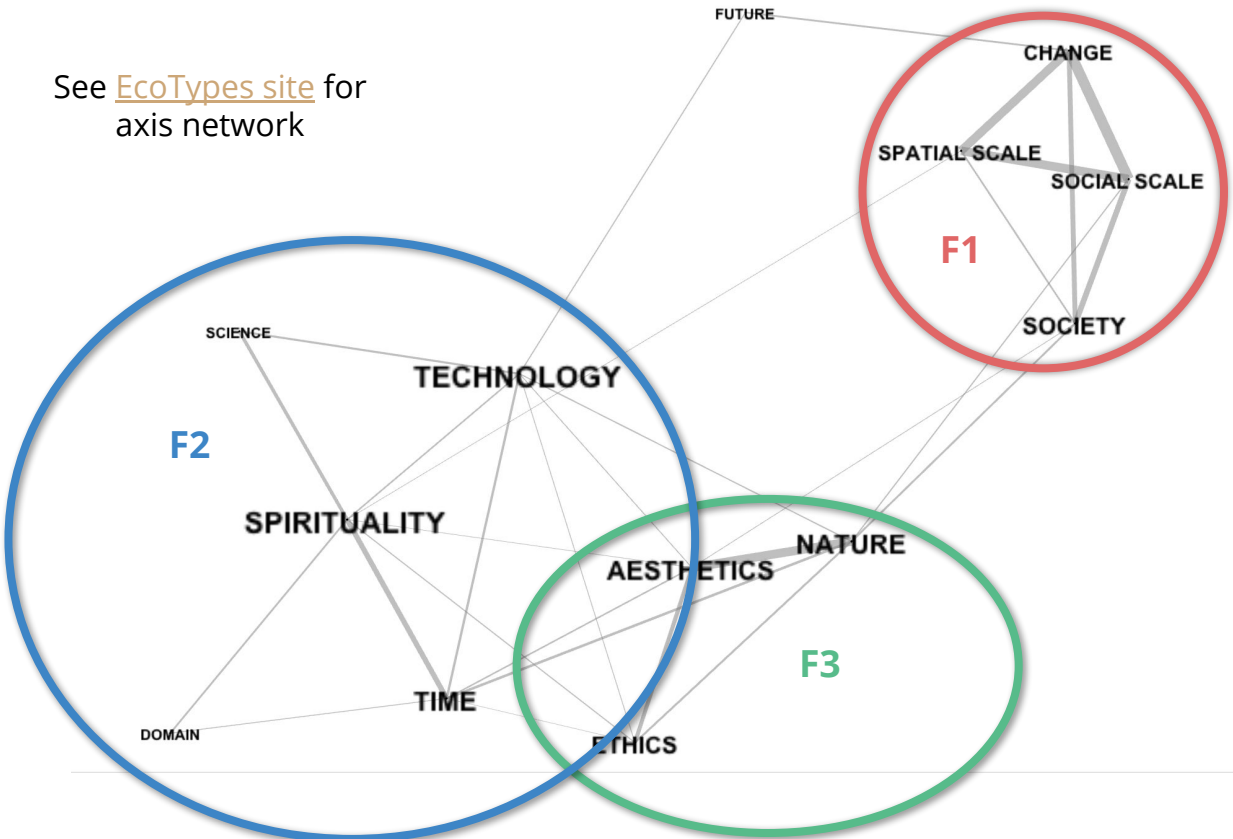
AESTHETICS	CHANGE	DOMAIN	ETHICS	FUTURE	NATURE	SCIENCE	SOCIAL SCALE	SOCIETY	SPATIAL SCALE	SPIRITUALITY	TECHNOLOGY	TIME	
x	0.00	0.08	0.33	0.18	0.52	-0.07	0.07	0.21	0.09	0.21	0.22	0.24	AESTHETICS
	x	0.07	-0.12	-0.25	0.11	0.11	0.58	0.37	0.50	0.01	-0.07	0.09	CHANGE
		x	0.10	0.03	0.09	0.17	0.11	0.09	0.13	0.25	0.16	0.22	DOMAIN
			x	0.14	0.26	-0.02	-0.10	0.02	0.02	0.23	0.21	0.20	ETHICS
				x	0.07	-0.05	-0.15	-0.11	-0.06	-0.06	0.23	0.01	FUTURE
					x	-0.01	0.23	0.26	0.15	0.18	0.23	0.28	NATURE
						x	0.18	0.02	0.18	0.32	0.26	0.20	SCIENCE
							x	0.40	0.51	0.09	0.13	0.12	SOCIAL SCALE
								x	0.25	0.05	0.00	0.10	SOCIETY
									x	0.21	0.14	0.19	SPATIAL SCALE
										x	0.24	0.38	SPIRITUALITY
											x	0.27	TECHNOLOGY
												x	TIME

See EcoTypes site for correlation table

- From 2017-18 data (N = 1009)
- Positive = green; negative = red
- Strong corr's btw change, scale, & society axes; aesthetics & nature axes
- Some axes more central (highly correlated) than others: spirituality, technology, time
- These results better visualized via network analysis

Network Analysis Results

See EcoTypes site for axis network



- From 2017-18 data (N = 1009)
- All correlations ≥ |0.2| included (30 total)
- Node size: # connections; node proximity & edge weight ~ |R|
- Network analysis algorithm: Force Atlas 2
- ~3 factors (note Future axis not included)

Factor Analysis Results

Factor	F1—?	F2—?	F3—?
Variance Explained	19.0%	15.8%	15.7%
Main Axis Factors (Ordered by Significance)	–Change: Radical vs. incremental –SocScale: Institutional vs. indiv. –SpaScale: Global vs. local –Society: Conflict vs. consensus	–Spirituality: Secular vs. sacred –Science: Mainstream vs. altern. –Time: Future vs. past –Technology: Philic vs. phobic –Domain: Material vs. ideal	–Aesthetics: Crafted vs. wild –Nature: Hybrid vs. pure –Ethics: Anthropo- vs. biocentrism
Associated Demographics (ANOVA + Correlations)	–**Future axis**: Crisis –**Response polarity**: High –Gender: N/A –**Major**: Social vs. natural sci –Class level: N/A –**Enviro concern/inform**: High –**Cult cogn**: Comm., Egalitarian –Motivation: N/A –**Political inclination**: Left	–Future axis: N/A –Response polarity: N/A –**Gender**: Male/other vs. female –Major: N/A –Class level: N/A –Environmental concern: N/A –Cultural cognition: N/A –**Motivation**: Scientific data –Political inclination: N/A	–**Future axis**: Possibility –**Response polarity**: Low –**Gender**: Male/other vs. female –Major: N/A –**Class level**: Grad vs. lower-div –**Enviro concern**: Low –Cultural cognition: N/A –Motivation: N/A –Political inclination: N/A

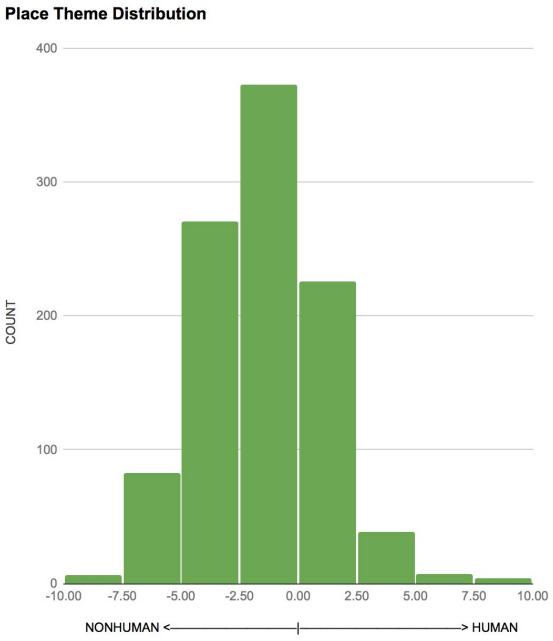
See EcoTypes site for detailed results

Factors as 3 Successive Questions

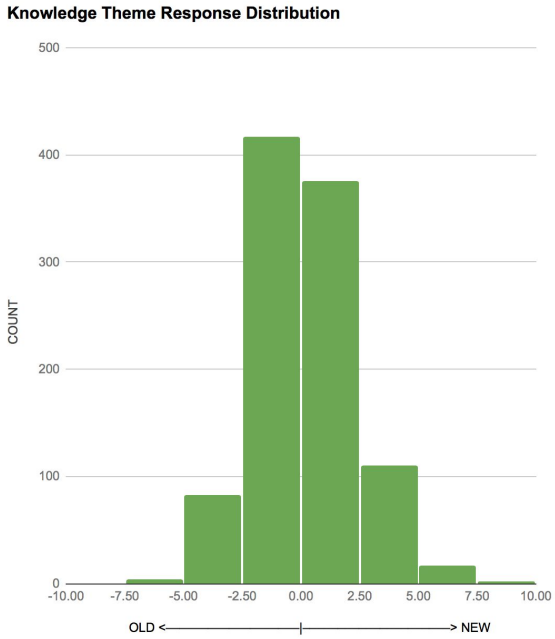
1. Place (nonhuman/human; = F3)
   - *What world do we want, and what would be the place of nonhumans vs. humans?*
   - Relevant axes: Aesthetics, ethics, & nature [some connection w/ future]
2. Knowledge (old/new; = F2)
   - *What old vs. new ways of knowing do we need to build this world?*
   - Relevant axes: Domain, spirituality, science, technology, time
3. Action (small/big; = F1)
   - *What action at small vs. big scales do we need to build this world?*
   - Relevant axes: Change, social scale, spatial scale, society [some connection w/ future]

See EcoTypes site for details on all themes

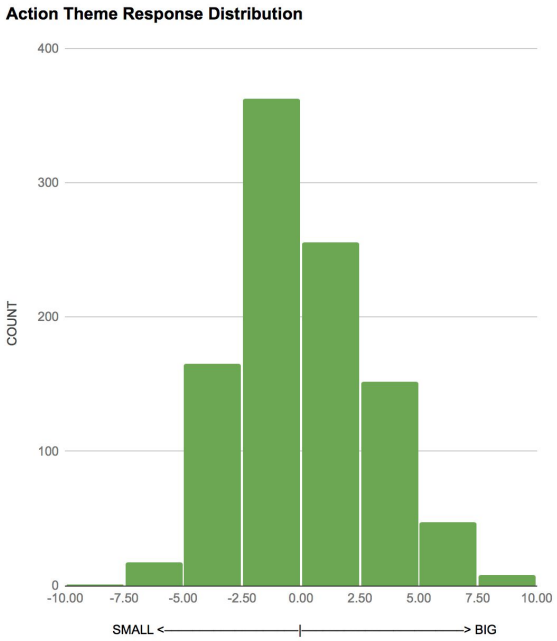
Factor Response Distributions (Unweighted)



2017-18 unweighted average
(mean = -1.78; stdev = 2.60)



2017-18 unweighted average
(mean = 0.05; stdev = 2.06)



2017-18 unweighted average
(mean = -0.09; stdev = 2.84)

Application: Environmental Topics (Sustainability)

- One of six to be developed (+ action, climate, food, conservation, health)
  - Learning goals: Connect broad concepts to concrete issues; + Try on some difference
- Multiple meanings of sustainability ~ EcoTypes axes/themes
  - Topics typically choose an axis pole + mix theme poles with one pole point of departure
  - Place/Knowledge/Action: Approach theme via Human/Old/Small point of departure
  - Some related axes: Change, Ethics, Society, Time
- Take Sides positions + role play resource (~ EcoTypes axes/themes)
  - Position One: We All Need to Do Our Part to Build a Sustainable World
  - Position Two: Resilience, Not Sustainability, is What We Need in a Changing World
  - Position Three: Sustainability Must Be Rejected as a Neoliberal Agenda

Application: Engagement (Example)

- Lewis & Clark meets central Oregon
- What world do we want, and what would be the place of nonhumans vs. humans?
  - Different experiences = different ways to understand/value nonhumans & humans
- What old vs. new ways of knowing do we need to build this world?
  - Both tended to favor old ways of knowing. But e.g. range scientists: new ways of knowing
- What action at small vs. big scales do we need to build this world?
  - Both tended to support small scale action...but vastly differing large scale enemies

Powell Butte, Oregon
April 2018

Application: Engagement (Concepts/Skills)

- Random conceptual insights
  - Niels Bohr's late 1920s complementarity principle: depending on how measured, e.g. light behaves like waves or particles, never both. Both are true, but these truths can't be reconciled. Implication: *We* are the (differential) measurement apparatus for truth.
  - Deep disagreement can thus lead to co-production of knowledge, vs. sharing of perspectives. We need to engage to co-discover the truth about things.
  - Environmental communication: from deficit model to framing to dialogue (see this resource). Dialogue (honest speaking/listening) may be the most effective!
- Practicing this sort of engagement requires new skills
  - Willingness to seek out someone whose environmental ideas differ from yours
  - The ability to appreciate paradox/creative tension/opposing truths
  - Trust & commitment among all participants: promise to listen and keep trying
- This all is a work in progress!...please join us.

Thank You, Collaborators!

Jenn Bernstein: Original EcoTypes survey & design
Faculty collaborators: EcoTypes pilot 2017 & survey 2017-18
Student collaborators: Ecotypes survey & input

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