

Catalyzing Natural Pattern Innovation & Gaian Collective Creativity

Transdisciplinary Regenerativity Index v1

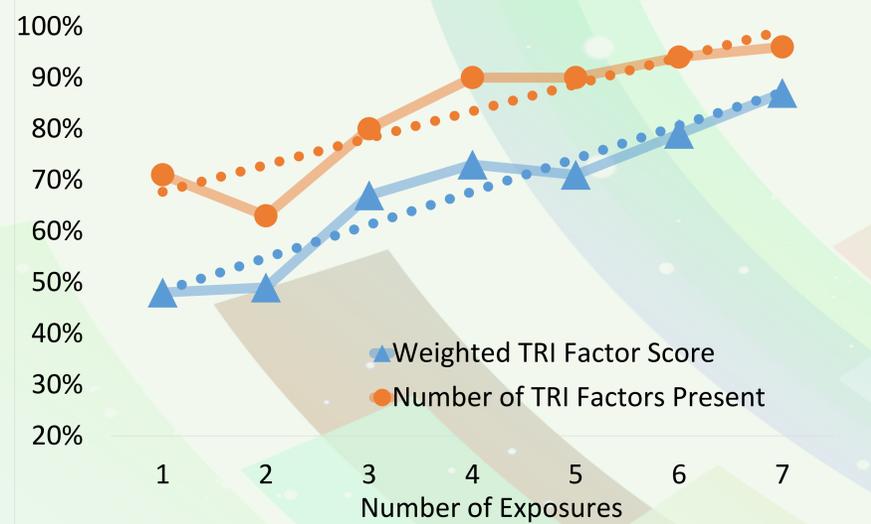
Version 1, 51 factors used for scoring, Organized by Cluster Set C – See Hauk (2013a, 2014b)

Nature: Design with nature • Make nature visible • Let nature do the work • **Connectedness:** Networks & chains • Relational • Interdependent • Reciprocity & mutual contribution • **Flow:** Inputs/Outputs/Exchange • Empowerment • Cycles • **Wholes/Emergence:** Parts of larger wholes • Emergence • Design from pattern to details • **Recycling:** No garbage • Recycle/Use renewable • Optimize not maximize • Conserve what works well • **Change:** Creative change of what doesn't work • Change is constant (and nonlinear) • **Time dimension:** Memory • Futures/possibilities • Intergenerational • **Messy:** Provisionality • Unpredictability • Edges & margins • **Paradoxical* Context:** Importance of place • Embeddedness • **Structures:** Form guides flow/Structures are important • Organize with info • **Ethics & Outcomes:** Prioritize sustainability • Change larger systems • Social justice & fair distribution • Global citizenship • Stewardship • Universe is benevolent • **Self-Generating:** Autopoietic • Self-regulating • Autognosis • **Characteristics:** Opportunistic • Communication of all parts • Coordination of all parts • Sources and Elements • **Diversify:** Diversity • Cross Scale Linkages • **Buffer:** Buffer/Adapt/Resilience • Small & slow • **Patterns:** Purpose/Meaning • Conceptual models • Uses ecofractals • **Other:** Everyone is a designer • Appropriate technology/tools

Research Design: This research is part of a larger complexity-informed, mixed methods body of research spanning multiple years and eighty participants at four scales [Hauk, 2014b]. Research involving brief and long-term interventions with ecological fractal patterns (ecofractals) assessed individual and group effects on creativity. This poster focuses on the group effects for one long-term participant-group. Within the third scale of the research, collaborative creativity in small groups, five groups were studied [Hauk, 2013b, 2014b] and the results reported here reflect the findings from the longest term intervention of the five.

Intervention: During two day-long regenerative ecofractal creativity intensives spanning a period of over one year, the participants worked in a small group using a variety of earth-pattern informed and ecofractal creativity interventions to enhance their innovation. Both quantitative and qualitative instruments were used to assess the effectiveness.

Table 1. Group Creative Collaborations Raw Scores for Regenerativity in Design – Number of Total Points and Number of Factors Present – Cumulative Learning Effect (Using the Transdisciplinary Regenerativity Index, Version 1)



Research Context	Year 1				Year 2			
Weighted Factors - Regenerativity Score (of 102)	49	50	68	74	72	81	89	
% out of 102 Points	48%	49%	67%	73%	71%	79%	87%	
Number of Factors Present (51 factors)	36	32	41	46	46	48	49	
% of 51 Factors Present	71%	63%	80%	90%	90%	94%	96%	
Activity Number for Regression	1	2	3	4	5	6	7	

Note. For the total score of activities 1-7, there is an increase for the long-term team of +6.6 ± 0.9 points for each activity. T statistic is 7.691. Given the degrees of freedom and the T statistic, the p = .000592. This means it is 99.94% likely that these results are not zero. Tested via linear regression, looking for a training effect using R 3.0.0 software.

Findings – Long Term Training Effect from Earth Pattern-Catalyzed Regenerative Collective Creativity

The most significant finding from Group 1 research and Transdisciplinary Regenerativity Index scoring at the group level was the cumulative score increases from repeated encounters with the ecofractals. Fitting a linear model to the regenerativity scores (Group 1, across Sessions 1 and 2) versus the number of activities [using a regression of an ordinary least squares model (OLS)], found a slope of +6.6 ± 0.9 points per activity. **In other words, over seven activities, over the more than twelve months of the study, the Group 1 team experienced a significant cumulative increase of six and half regenerativity points per activity that built upon the gains of the previous activities.** The p value of this coefficient is p = .000592. This means that it is 99.94% likely that this training effect is not 0. The effect is very long-lasting, as these experiments took place across a period of more than twelve months.

- Daunting sustainability challenges require collective creativity
- Small group innovation using ecological patterns from nature (ecofractals) catalyze sustained increases in regenerative creativity and collective idea generation
- Sustainability and biomimicry approaches can support emergent ecological intelligence and Gaian collective creativity

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Core Ecofractal Patterns



The Institute for Earth Regenerative Studies Earthflow & Ecofractal Research for Collaborative Creativity

A multi-year research project of the Institute for Earth Regenerative Studies
www.earthregenerative.org/research/gaian-collective-creativity/

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