

Developmental Sensemaking for Transformative Action Taking: The Constructive Motion of Emotion

Hilary Bradbury

Abstract: The article refreshes the concept of learning from experience, by emphasizing how experience is primarily anchored by emotion not rational thinking alone. It then inquires into the potential value of engaging emotions as a resource that gives vitality to action research. The proposition is that by including disappeared and denied emotions, perhaps especially at this moment when we confront planetary crisis, we may find greater perspective and imagination in co-creating response with stakeholders. Insights from two bodies of literature, action-oriented psychology and constructivist adult development are brought to flesh out the argument. A rich learning chronicle from a large scale, successful action research at the Port of Los Angeles is used to illustrate. The relevance of this chapter for action researchers engaged in territorial development lies in the provocation that more action researchers enrich capacity for helping transformations happen by leveraging the motion of emotions at this time of eco-social crisis.

Key words: transformative action, emotion, action-oriented psychology, constructivist adult development

Una comprensión que nos prepara para la acción transformadora: el impulso constructivo de la emoción

Resumen: El artículo actualiza el concepto de aprender de la experiencia, al enfatizar cómo la experiencia está anclada principalmente en la emoción, no solo en el pensamiento racional. Luego indaga sobre el valor potencial de involucrar las emociones como recurso que da vitalidad a la investigación-acción. La propuesta es que, al incluir emociones desaparecidas y negadas, quizás especialmente en este momento en el que enfrentamos una crisis planetaria, podemos encontrar una mayor perspectiva e imaginación a la hora de cocrear una respuesta entre varios agentes. Para dar cuerpo al argumento se aportan conocimientos de dos cuerpos de literatura, la psicología orientada a la acción y el desarrollo constructivista de adultos. Para ilustrarlo se utiliza una rica crónica de aprendizaje proveniente de una investigación-acción exitosa a gran escala en el Puerto de Los Ángeles. La relevancia de este capítulo para los investigadores en la acción involucrados en el desarrollo territorial radica en la provocación para que más investigadores en la acción enriquezcan, en este momento de crisis ecosocial, su capacidad de acompañar transformaciones aprovechando el impulso de las emociones.

Palabras clave: acción transformadora, emoción, psicología orientada a la acción, desarrollo adulto constructivista.

1. Introduction

Action researchers have a learning problem. Too often we neglect the feelings and emotions that direct – give motion to – our relational learning efforts. Sometimes we minimize or deny emotion; or we are simply oblivious. The thesis in what follows is that our model of learning takes insufficient account of emotion. It is a problem to the degree that it reduces agency among stakeholders. If, however, at this time of eco-social crisis, we care to help make transformations happen, action researchers for transformations (ARTists) can turn toward depth within.

In what follows I refresh the notion of learning from experience, by emphasizing emotional experience. I bring insights from two bodies of literature, action-oriented psychology and constructivist adult development. The relevance for action researchers engaged in territorial development lies in enriching our capacity for transformations at this time of eco-social crisis. In attending to inner and relational complexity lies capacity to respond to our increasingly diverse and divisive, complex environments. Despite training that neglects emotion, a mature reckoning allows for mourning the emotionless reasonable pictures of ourselves as agents of progressive helpful facilitation. Instead, we find expansion of perspective and imagination because we are facing more of reality.

The chapter proceeds with a rich learning chronicle from successful work at the Port of Los Angeles. As with any anecdote, albeit true, it is but a slice of reality. It is chosen, however, to telegraph key components of the type of action research now required at speed and scale as we muddle into the epochal shift from industrial modernity to postindustrial metamodernity (Korten, 2007; Macy 2009 Freinacht, 2017). With greater awareness of interdependency we may walk paths toward more caring ways of working and living.

2. Our growth model of unsustainability in tandem with overemphasizing rationality.

Minimization and oblivion of emotion are not an accident, but a consequence of the intellectual Cartesian culture we have inherited. In this abstractions trump practice, mind is elevated over body. In Enlightenment thinking emotions, separate from more esteemed reason, were denigrated, and often coded as feminine. Thus, the significant destructive energies of say greed and hostility, as well as constructive energy of caring etc. were relegated away from the more focal concern of rational thinking, often coded as masculine. Yet subjectivity of experience is elemental in all human sensemaking; feeling states continue to operate. Those emotional states that operate outside of explicit attention of shared change efforts, may turn out to be quite worthy of attention if we are to meet and respond to the damage that the ecological Modern era has bequeathed.

For centuries, the West has been in a growth model of unsustainability. The age of industrialization radically altered how we live and work with nature and with one another. That educators, social scientists and action researchers are still trained to find neutral, objective, truths means we still teach in a vein that stops short of tackling deeper dynamics that hold the mainstream status quo is held in place. In the language of action researching

grandfather Kurt Lewin we live amidst frozen systems in which our insights find little traction in unfreezing these systems and bringing change. As systems thinker Donella Meadows (1997) explains, there are so many interlocking elements – technical psychological, emotional – that hold current systems frozen in place. Our systems are shaped by rewards, policies and mindsets that ongoingly reproduce the modernist past. My chapter argues not for a retreat to simpler times in which subjective claims of pre-Modern authority figures can be dogmatic, but for a next level of sensemaking in which our work to unfreeze our systems includes work to unfreeze our own sensemaking of emotional states which hold mindsets in place. In this more of us, supported by self-selecting educator-change leaders, may develop capacity for meta-modern (or post post modern) interweaving of objectivity with subjectivity, reason and emotion, as mainstream and marginal voices (sometimes also within ourselves) integrate for action taking.

3. Integrating attention to Emotions

Today a renewed appreciation of emotion is emerging across the sciences. In a 1994 seminal text, *Descartes Error*, by neuroscientist Antonio Damasio, we learned that human choices and behaviors are rooted in feelings, not rational thought. In other words, we act according to how we feel. In response, a new appreciation for irrationality has developed, winning a Nobel prize in behavioral economics for Kahnemann and Tversky, (Kahnemann, 2011). Now building on social science with its attention to bias, neuropsychology in the 21st Century has come to recognize just how “irrational” – that is not always rational in decision making – the average person is. How then should an action researcher avoid the so-called enlightenment bias – whereby we continue to “teach/coach/consult” *as if* rational insight alone makes a meaningful difference – as we pursue congruence in the domain of collective meaning making and action-taking. Thus, if not ignoring, nor controlling emotions, how to work with emotional truths? The suggestion here is that recognition and integration of emotion is key in the work of change at this time of eco-social crisis.

4. Learning Chronicle from the Port of Los Angeles (POLA)

The head of the Port of LA’s Sustainability division, Dr. Ralph Appy, played a key role in getting our action research work off the ground. In our work a self-regulating roundtable grew to include executives from along the Port’s cargo transshipment system. This included shippers (e.g., NYK), manufacturers (e.g., Mattel Toys), Truckers (e.g., Volvo), retailers (e.g., WalMart) and waste haulers, (e.g., Waste Management). Our learning partnership combined conventional qualitative and quantitative methods to support an innovative social learning process. We started this work with me inviting key stakeholders with the intention of helping transform pollution connected to the work of the Port. First I needed Dr. Appy’s agreement to make those invitations.

I represented the University part of the learning partnership (in my role as director at the Center for Sustainable Cities, a think-tank at USC where I was research professor) and Ralph represented the Port, namely the The Port of LA. POLA is America's busiest port by container volume, with operating revenues of about \$250 million/yr from handling over \$250 billion/yr in cargo value. Economic impacts include about 133,000 jobs in Los Angeles.[i] We met because Port operations also generate unacceptable levels of air pollution, the type that is invisible and implicated in childhood asthma and shorter life spans, alongside carbon dioxide emissions. What might we accomplish together?

In the first meeting with Dr. Appy's office, I spelled out the big idea: "I'm suggesting that we convene the Port's stakeholders. We'd bring the willing into a learning space together. Our USC team brings good diagnostic, measurement, facilitation and documentation tools. You're the experts on the Port. Say we convene 12 major organizations along the cargo transshipment route to get going. Together we figure out a couple of new experiments to reduce pollution across the stakeholder system. That might be a good start."

Everyone present in that meeting, myself included, felt the naïveté of the idea of convening this giant system. More importantly we also felt a new possibility.

The Port was aware of work of USC medical anthropologists that showed kids who live in the poorer neighborhoods near the Port suffered greatly, and throughout their lives, with the negative effects of pollution on growing lungs. I explained that as action researcher our goal was not to explain or analyze the data much further, after all many of us already understood how LA's unique geography traps pollution and causes kids to suffer. What we wanted to do was to seek actionable solutions together, the kind that would help the entire system transform toward sustainability performance. We could not pit poor kids against rich ocean shippers, or scholars against business executives. For any solution to really work over the long haul, i.e., sustainably, we'd have to balance the competing demands of operating profitably, while working within nature's parameters for pollution management, but without diminishing social well-being of those involved. Sometimes sustainability management is therefore referred to as managing to a triple bottom line that seeks to integrate economic, social and ecological capitals.

Dr. Appy invited me to lunch in the boardroom to develop the initial idea with his team. Which stakeholders he wondered. I picked up a whiteboard marker and asked everyone around the table to call out key stakeholders that made up the cargo transshipment system. Names of factories, truckers, ocean carriers, supermarkets, dock workers, consumers, and more were offered. I added logos (Disney, Volvo, Maersk, etc.). Like any map, it was partial. When the whiteboard began to look busy, I asked who was missing? The engineers added their knowledge of recycling stakeholders. Others mentioned politicians knowing that the Mayor's office was eyeing the Port with visions of sustainable infrastructure. Before I sat down, I put a stick-figure kid with a bright red inhaler at the center of the map.

As we walked from the lunchroom, Dr. Appy told me that the Port was on board for the learning experiment we'd outlined. I was relieved. I asked him what motivated him to enter into this admittedly unusual learning partnership. He explained that in drawing that first map, he was aware of stakeholders that were not named. He explained that he cared also about the harbor seals, and the fish in the ocean. They too were stakeholders. It turned out that Dr. Appy was a marine biologist by training and deeply engaged in ecological thinking. If things went well, we agreed we'd do a better version of this stakeholder map. We imagined together a tugboat ride for possible stakeholders that would give us an up close look at the complexity

(and silence any sense that there could be a simple solution to the complexity of Port reality). For now, we had a good start. Importantly, we had a good sense of connection. Dr. Appy felt invited and enabled to integrate more of his concerns – the type that go beyond the rational analyses that show up on conventional spreadsheets that shape organizational direction. In turn he gave space to a process that opened up conversations about what really matters to all involved.

Ralph, approaching retirement, saw the opportunity to account for more of his subjective, embodied sense of what was right and important. Thus, he welcomed the opportunity to bring a more integrated, not just solely or even primarily cerebral- rational proposal to key stakeholders as a next step. He had space to feel his emotionally anchored and purpose driven experience of what was important to him and the larger system he managed. And in turn, I felt more space to propose transformative work – that would integrate objectivity (e.g., data on CO2 emissions) with subjectivity (what really matters) – in the otherwise behemoth Port.

5. Learning outcomes at The Port

Key outcomes of our ART at Port of LA included creating a robust carbon calculator that allowed for stakeholders to choose less carbon intensive routes for their transshipment of cargo. Additionally, our results, and how we achieved them, were shared with other ports in New York and then around the globe. The social learning process itself – kicked off on a tugboat around the gargantuan ocean carriers – produced multiple bilateral and smaller multilateral experiments in sustainable development over two years. Some years after the completion of the project I checked back with Ralph's assistant Jan who had gone on to working in a similar capacity at another governmental agency. The positive impact experience at the Port had indeed lasted. Our work had been picked up by the International Association of Port Harbors; there was considerable attention to the carbon calculator which the new Port CEO shared as part of being a “good neighbor.” The Port was spoken of by a new progressive mayor as a positive contribution to the greening of the City of LA and beyond because it had work positively impacted construction guidelines of large and regional ports up and down the US West coast. Under the CEO's leadership there continued to be a huge investment in sustainable development with much involvement of the community. During the supply chain gridlock during the pandemic a decade after the action research described had concluded, the new regulations continued to benefit young lungs. There are signs of healthier marine life also.

The anecdote serves to point to a proposition namely that stakeholders, when enabled to bring more of their integrated experience to a learning endeavor, invest more fully in the outcome. We may find useful, therefore, a psychological model that includes the denied, the disavowed and in need of integration into the light of conscious choice.

6. Action starts with integrating emotionally toned experience in self authoring.

Key to transformation is experiential – sometimes called action – learning as conceptualized by David Kolb (1976), who integrates Piagetian and Pragmatic approaches to learning. Kolb defines learning as the transformation of experience through reflection, conceptualization and active experimentation (Kolb, 1976). The implication is that transformation is possible when reflection, conceptualization and experimentation are linked and anchored in experience. The nature of experience, however, deserves more attention as we consider the impact both of emotion and human development.

What do action researchers mean when we start from experience of now to move toward action? The nature of experience has not been adequately recognized for its anchoring in subjectivity (Damasio, 1994). However, the paradigm shift in cognitive and behavioral sciences of this century, perhaps yet to be appreciated by action researchers, insists that embodied action, not disembodied information, is core currency of our capacity for learning. In this we note that emotion and embodiment are entwined. In other words, instead of focusing on learning as a matter of the head alone, hands and hearts are to be included. The new action- and experience-oriented paradigm has shown that any higher cognitive function rests upon action/perception cycles, and there we locate the wholistic nature of action/research. Thus, the question of *how we come to experience the world* is not just a philosophical aside, but core to improving our work of systems and personal change and transformation.

Experience is subjective. Moreover, our awareness of subjectivity enriches our learning which in turn is attuned bodily intelligence, replete with sensation and emotion. Attention to experience counteracts reliance on abstract ideas which alone, i.e., when not anchored in embodied reality with others, become potentially dangerous. Consider abstract school curricula that bear little connection to students lived lives, or abstract policy making that divides countries with a pencil and ruler on a map without reference to indigenous history. Consider, with reference to the chronicle above, if there were no invitation for Dr. Appy to share what he cared for, emotionally. In each case the abstractions might carry little subjective connection to experiential reality – and thereby minimize or deny what actually matters to those involved.

Privilege of abstraction can be credited to Cartesian education. Fixed ideas about reality are given more credit than fluid “reality” itself. Stability is privileged over learning and change.

7. Constructivist Adult Development: Integration across a lifetime

My discussion of constructivist adult development sits in a lineage stretching from Jean Piaget (1962) who proposed an invariant sequence of stages through which children develop. I emphasize integration of embodied (not just cerebral, rational) knowledge at mature stages of development available to adults. This stage-like development has been empirically elaborated (and also roundly critiqued) by scholars in a variety of fields. I extrapolate especially from Jane Loevinger (1966, 1976), known for her assessment of ego development, and the more

recent work of Robert Kegan (1988), while acknowledge especially the influence of Susanne Cook-Greuter (2013a, 2013b), William R. Torbert (2004) and Ken Wilber (Wilber et al, 1986).

Awareness of emotional truths alone is not a guarantee of awareness of others' emotional truths or of agreement with objective facts. The theory of constructivist adult development is helpful for naming stages of development of inclusive awareness. A key movement in the theory of constructivist adult development is described by the term self-authorship,¹ which means cultivating capacity within the paradoxical and complex demands of combining action and reflection. In practice it means:

- Entertaining diverse perspectives enough to provoke reflection and clarity about what matters most of all for us.
- Growing from individual expert knowers (as developed within formal educational institutions) to interested and interactive partners with others.
- Learning and supporting others in collective decision making and shared accountability.

Constructivist adult developmental theory holds that our capacity for holding awareness of my inner state, alongside awareness of you and external reality develops over several stages and through a lifetime. In this lifelong maturing process, we develop more capacity within, as our horizon of attention moves from excessively me-centric to include "we," that is how I connect with you. From there it becomes possible to grow awareness of how interdependent I am.

8. Developmental scaffolding for transformations

To put the important insights of adult development succinctly: it appears that our *capacity to integrate* what we hold in awareness at any given time – about "me," "you," "it/external world" – equals our "action logic." Action logic is a term by Torbert, (2004) that brings action and inquiry together; it suggests we understand that action is the constructive outcome of inquiry. The more integrated my attention (of my own subjective state, my sense of who is around me and the systems within which we are working) the more mature my psychological maturity.

Cultivating capacity for this multi-dimensional attention – reason and emotion, self and other, inquiry and action – does correlate with being effective in a chosen arena (Rooke and Torbert, 2005). In growing our capacity to focus not just on myself, or on you or on the external world, but instead, to combine these awarenesses grows my capacity as an agent of transformation.

Too few of us try to understand our capacity for holding attention, and fewer still have explored the possibility of developing it. Action researchers who undertake this voyage of personal understanding and development can transform their own capabilities. And also those of the organizations and institutions they're part of. We know empirically that they can reliably generate organizational and personal transformation. They do this by practicing inquiry and vulnerability which manifests in mutuality. This has a direct impact on how power is used, allowing choicefulness about the impact of interpersonally destructive vs. con-

1 The term is developed in the theory of constructivist adult development in the work of Robert Kegan.

[i] Port of Los Angeles website at: <https://www.portoflosangeles.org/business/statistics/facts-and-figures>

structive states. Unfortunately, such action researchers are still too few. Can it become a higher percentage? Can more of us engage in self-development, also with others in the context of action research for transformations (Bradbury, 2022)?

9. Emotion in action research for transformations (ART) and its application to ARTD: Implications for practice.

A key suggestion of this chapter is that unless change efforts become tangible at the emotional level for stakeholders, little actually happens to unfreeze our inherited frozen systems. Yet, making subjectivity tangible is not, in itself, a quick fix. The chapter points to a relational and emotional maturing process required so that those involved may be held captive of immature “me” centric (frozen) ideas that fail to take responsibility for the ways in which subjectivity co-constructs shared reality.

In the chapter I have emphasized that key to learning together is, therefore, to turn toward the inevitable emotions among us while simultaneously searching for creative solutions. The wisdom of emotions and embodiment are therefore key additions to our repertoire as action researchers.

In the Port chronicle the lively minds of the stakeholders gathered were channeled into imaginative visioning. In this there was opportunity to share what was important, both systemically, relationally and personally. What is important is changing our embodied states, inside changed relational group process spaces. At these different levels we move from objective to increasingly subjective perceptions. Emotions and embodiment become resources within a tradition of experiential learning in action research and offer a bridge toward working together to include more embodied wisdom.

A second key implication concerns the relative ineffective use of time spent in endless cycles of reflection and talk if not actively searching for new ways of living. Thus invitations to live/act/behave differently together are paramount. Such experiences may be first limited to vicarious or simulated experiences (as with the Port’s tugboat ride). Nonetheless if designed with intention in mind, they pre-figure new ways of living and working. As the Port case suggests, there was an eventual shift in regulations with longer term impact of the work. This all started with inviting the wisdom of emotionally toned selves.

10. Our work is systems unfreezing

Paraphrasing Einstein, thinking in old ways (in terms of this chapter, we may say overly me centric awareness that privileges rationalist argument) will not allow for the kinds of breakthrough solutions needed. We need a very different kind of sense of self if we want to be able to navigate the crises of the 21st century. Realizing the importance of embodied emotions matters because it provides access to more intelligence, that is more awareness within a system.

Using the Lewinian metaphor of frozen system we might ask why we remain so frozen? The answer to that lies outside this chapter, but certainly scholars have a bad relationship with our emotions and embodied wisdom, thus remain emotionally immature. It's not our fault, indeed, millennia of dogmatism which dismissed emotion and viewed everything the body did as sinful, is not easily overcome. Still, it is our responsibility to invite more wisdom into our processes.

In the action researching tradition we know that are two things that do lead to change: connecting stakeholders to an issue with a participative ethos and trying out new actions in the world. At this time of climate change and other eco-social crises, when we want to see action research contribute, valuing emotion and experiential work inside relational spaces is key to learning to overcome our dogmatic inheritance. For ARTD, the suggestion is to de-emphasize abstract talk in favor of more experiential exploration that keeps action experiments at the forefront of intention. It is to suggest that action researchers for territorial developmental are both agents of (external) change while also subjects of (inner) transformation. By avoiding the emotional complexity of self and others, action researchers miss routes that help grow our capacity to respond to the complexity of our times.

In closing I offer a not yet finished, and indeed on-going, learning chronicle from a project in Ireland which facilitates faculty, students and other stakeholders of Higher Education Institutions throughout the island in responding to the planetary crisis. So far two cities have convened meetings with more planned. In what is a small country, all major universities and many other Higher Education Institutions are represented active. An interim report by Sheehan et al (2024) highlights the importance of recognizing emotions as part of education. The author summarized from meeting discussions:

"Given the strong feelings that are associated with learning about the climate and ecological crisis, and their connection with histories and contemporary realities of injustice and harm, integrating emotions and emotional learning emerged as key issues across the group discussions."

The report goes on to report a high degree of consensus on the need to acknowledge the importance of the mobilizing the power of emotions – such as anger at injustice and hope for a better future – to decisively move education about the polycrisis beyond the intellectual/cognitive level.

Ultimately, much of what was discussed in terms of transformative learning was creating learning opportunities for students to figure out for themselves their own understanding of our planetary crisis, including its root causes, uneven consequences and the contested character of the diversity of possible solutions. Implicit across the insights generated from discussions was the need to enable students to connect hope with action and agency, as well as within their learning, to work out their own 'theory of change'.

One way of summarizing would be to say that "what is required is to focus on co-creating learning for empowering and equipping students with the skills and experiences that look at the 'whole person' and not simply view students as 'brains on legs.'" (Sheehan et al). While the words "action research" were not yet used in the report, clearly the spirit is already evident.

The developmental work implied in this chapter's discussion of emotion, embodiment and a new respect for working with our subjectivity may seem daunting. The kind of subjective fluidity suggested in order to shift from fixation on "right ideas" only become available (according to adult developmental theory) after movement beyond – unfreezing from – an immature dogmatic, me-centric stance. As daunting as the developmental work is, there is

opportunity. Emotion provides motion, energy and direction, for our collaborative change efforts in response to climate change. May more of us do the work of self-development as a catalyst for sustainable development.

References

- Argyris, C. (1990). *Overcoming organizational defenses: Facilitating organizational learning*. Allyn & Bacon.
- Bradbury, H. (Ed.). (2015). *The handbook of Action Research: Participative inquiry and practice* (3rd ed.). Sage Publishing.
- Bradbury, H., & Torbert, W. R. (2016). *Eros/Power: Love in the spirit of inquiry. Transforming how women and men relate*. Integral Publishers.
- Bradbury, H. (2022). *How to do Action Research Transformations at a time of eco-social crisis*. Edward Elgar Publishing.
- Bruner, J. (1984). Vygotsky's zone of proximal development: The hidden agenda. *New Directions for Child Development*, 23, 93–97. <https://doi.org/10.1002/cd.23219842309>.
- Cook-Greuter, S. (2013a). Assumptions versus assertions: Separating hypotheses from truth in the Integral Community. *Journal of Integral Theory and Practice*, 8(3), 227–236. <https://www.proquest.com/scholarly-journals/assumptions-versus-assertions-separating/docview/1518518398/se-2>.
- Cook-Greuter, S. (2013b). *Nine levels of increasing embrace in ego development: A full-spectrum theory of vertical growth and meaning making* [Unpublished dissertation].
- Damasio, A.R. (1994). *Descartes Error: emotion, reason and the human brain*. Putnam.
- Follett, M. P. (2013). *Creative Experience*. Martino Publishing.
- Freinacht, H. (2017). *The listening society: A metamodern guide to politics (book one)*. Metamoderna.
- Freire, P. (1970). *Pedagogy of the oppressed*. Seabury Press.
- James, W. (1975). *Pragmatism: A new name for some old ways of thinking*. Harvard University Press.
- Kahneman, D. (2011). *Thinking, fast and slow*. Penguin.
- Kegan, R. (1998). *In over our heads: The mental demands of modern life*. Harvard University Press.
- Kolb, D. A. (1976). Management and the learning process. *California Management Review*, 18(3), 21–31. <https://doi.org/10.2307/41164649>.
- Kolb, D. (1982). *Experiential Learning. Experience is the basis of learning*. Prentice Hall.
- Korten, D. C. (2007). *The great turning: From empire to earth community* (1st ed.). Berrett-Koehler Publishers.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34–46. <https://doi.org/10.1111/j.1540-4560.1946.tb02295.x>.
- Loevinger, J. (1966). The meaning and measurement of ego development. *American Psychologist*, 21, 195–206. <https://psycnet.apa.org/doi/10.1037/h0023376>.
- Loevinger, J. (1976). *Ego development: Conceptions and theories*. Jossey Bass.
- Macy, J. (2009, June 29). The great turning for global healing. *Center for ecoliteracy*. <https://www.ecoliteracy.org/article/great-turning>.
- Macy, J. (2012, September 21). Three stories of our time. *Work That Reconnects Network*. <https://workthatreconnects.org/spiral/the-great-turning/the-global-context/>.
- Meadows, D. (1997). Places to Intervene in a System. *Whole Earth*, 91(1), 78–84.
- Piaget, J. (1962). *The moral judgment of the child*. Collier Books.
- Rooke, D., & Torbert, W. R. (2005). Seven transformations of leadership. *Harvard Business Review*.

- Sheehan, S., McGeown, C. and Barry, J. (2024, January 11). The Planet is on Fire so why is higher education behaving as if it's business as usual? *The Irish Times*. <https://www.irishtimes.com/environment/climate-crisis/2024/01/11/the-planet-is-on-fire-so-why-is-higher-education-behaving-as-if-it-is-business-as-usual/>.
- Sheehan, S., McGeown, C. & Barry, J. (2024). What should Higher Education Institutions do about the Planetary Crisis?. <https://tinyurl.com/2ee5us4m>.
- Vygotsky, L.S. (1978). *Mind in society: the development of higher psychological processes*. Harvard University Press.
- Weintrobe, S. (2021). *Psychological Roots of the Climate Crisis: The Culture of Uncare*. Bloomsbury.
- Wilber, K., Engler, J., & Brown, D. (Eds.). (1986). *Transformations of consciousness: Conventional and contemplative perspectives on development*. Shambala.
- Zull, J. (2002). *The art of changing the brain*. Stylus Publishing.

Hilary Bradbury, Ph.D., is founder & curator at AR+ | Action Research Plus Foundation. With a Ph.D. in organization psychology and years as a Professor (Case Western, USC and OHSU), Hilary's expertise brings a transformative action research ("learn by doing") approach to social change methodology. She plays a global community organizing role among action researchers reflected in her position as Editor in Chief of the premier, international peer reviewed Action Research Journal. As curator at AR+ Foundation, she supports global educator-change leaders and universities. She emphasizes integrating developmental reflexivity and social learning as Action Research for Transformations. Through AR+ Hilary works with learner-leaders of all types both within and beyond formal institutions in transforming their response to the social-ecological crisis of our times. She wants more of us to avail of transformative action methodology and become more responsive to our eco-social crisis in our scholarly practice.