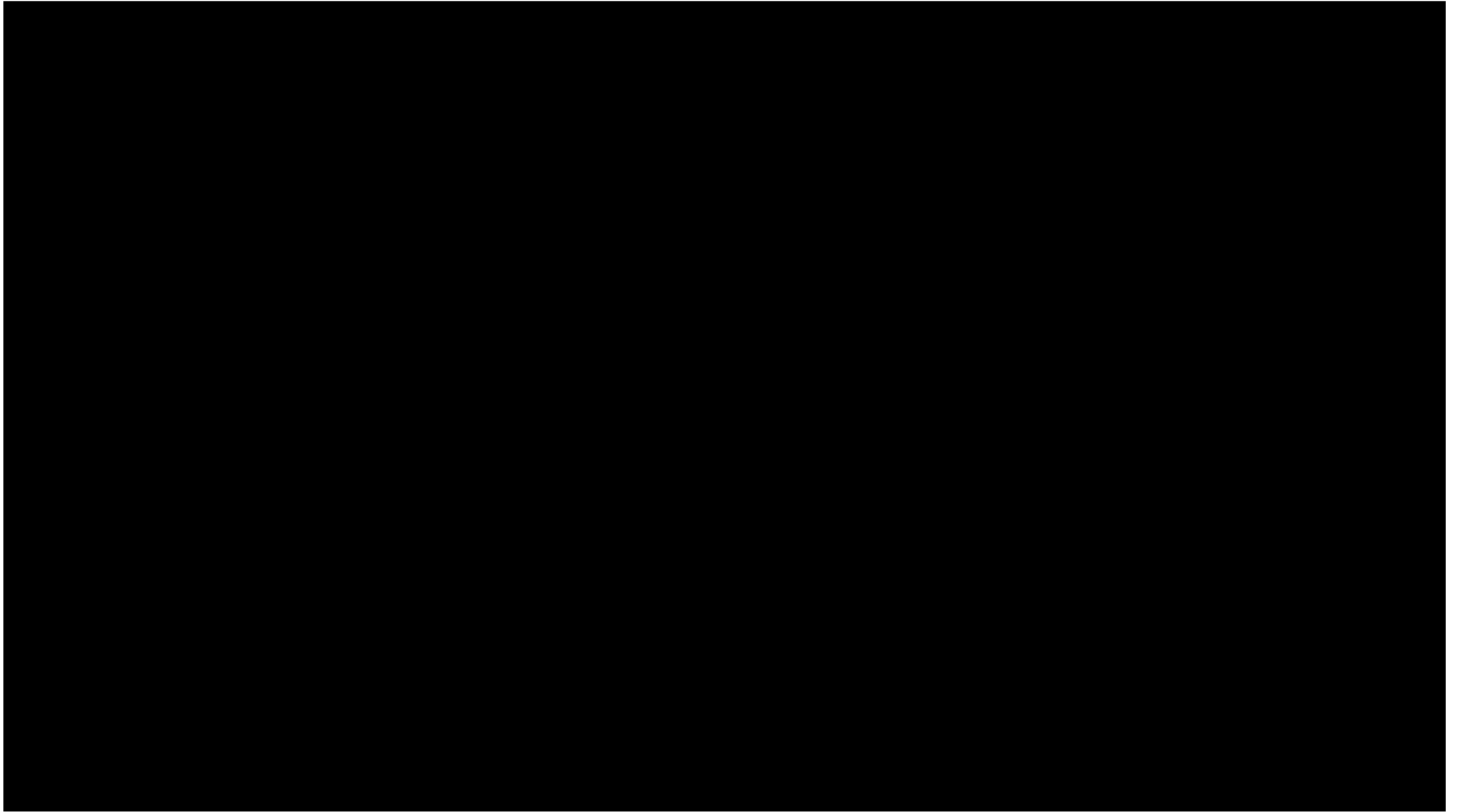


complexity

complexity



**A metaphor for a classroom?**

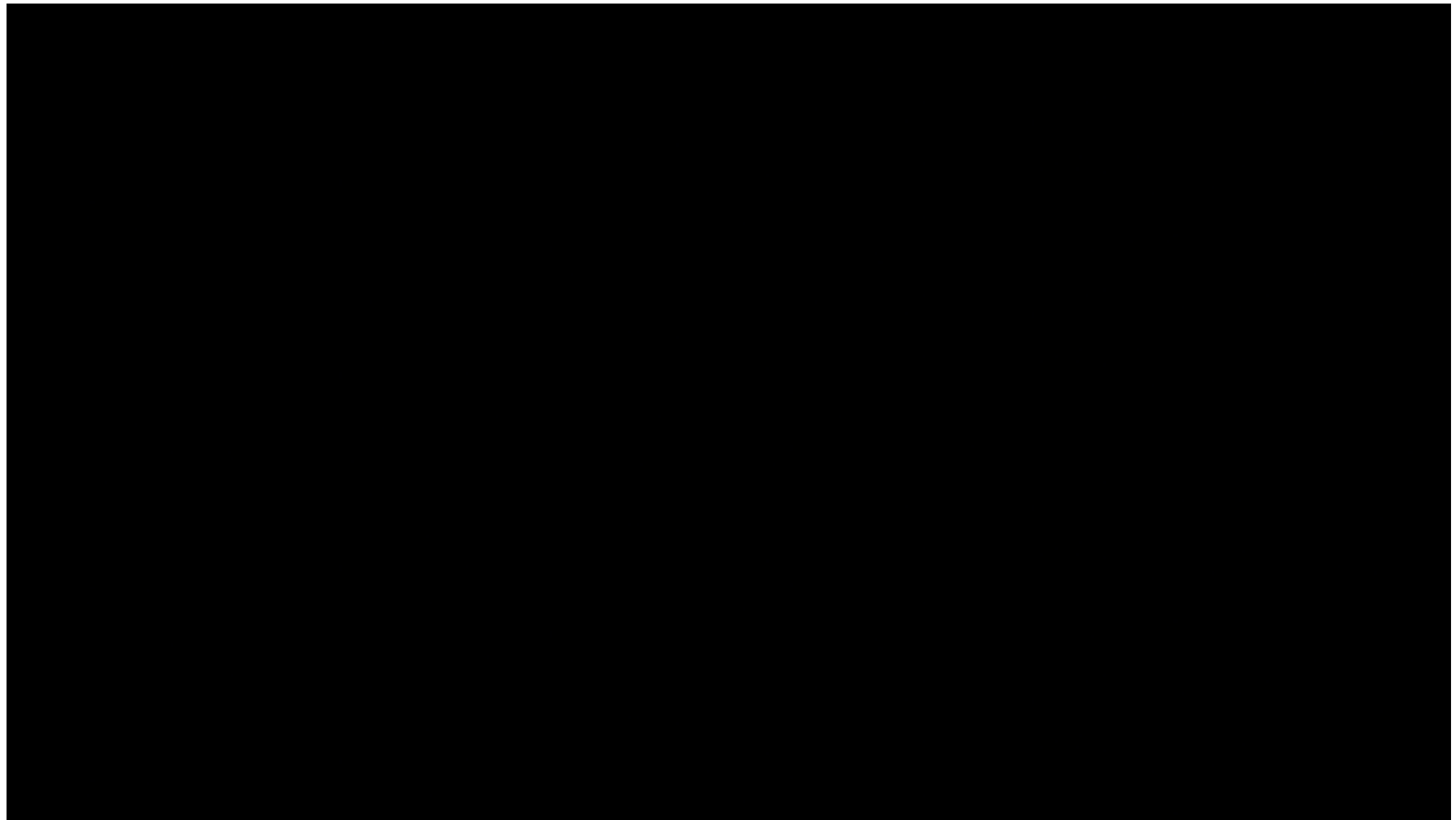


# Complexity

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A lens for exploring community.

Reductionist methods fail to provide a complete understanding of complex social systems.



# The Language of Fritjof Capra

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Self-Organization

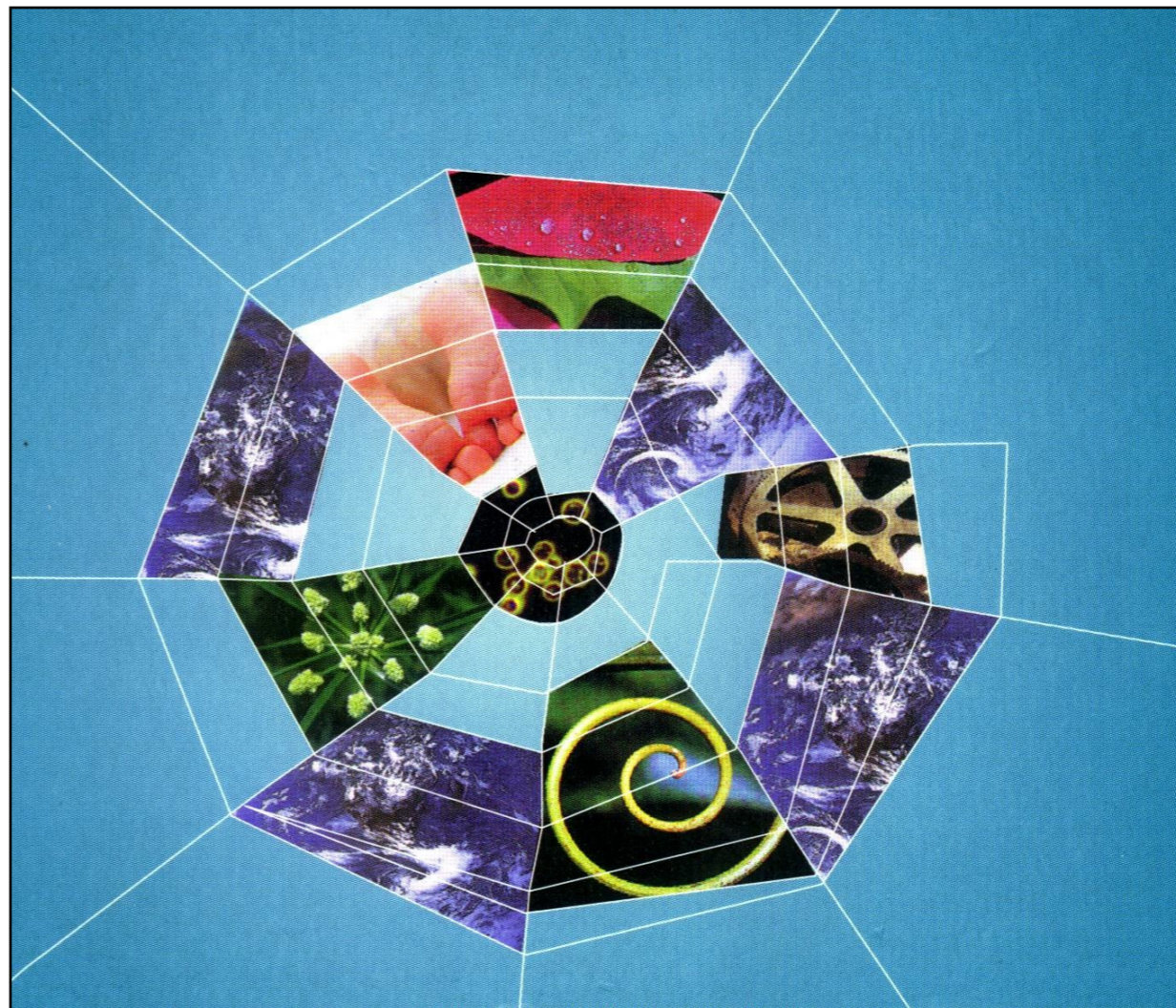
Shared  
Consciousness

Disequilibrium

Edge of Chaos

Co-Evolution &  
Ecology

Emergent  
Properties



The Turning Point, 1983 (Chapter 9)  
The Web of Life, 1996

# Edge of Chaos

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A classroom is about negotiation.

It cannot be too rigid or authoritarian.

It cannot be too uncontrolled or permissive.

We must negotiate a course between order and chaos, responsibility and autonomy.



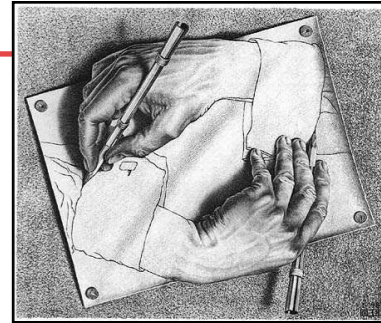
# Self-Organization

A classroom community self-organizes through negotiating individual and collective structures and activities.

Dynamic, adaptable  
- Not static.



# Ecology and Co-Evolution



Each member of the classroom, the community, and the environment are inseparable.



Through interactions with each other, students, teacher, the classroom community, and the school environment develop and grow together.

# Emergent Properties

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Certain structures or processes arise from the interplay of various elements in a complex system.

Emergent properties may display features not present in the individual elements from which they emerge.



# Disequilibrium

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The classroom is in a continuous state of change.

Changes generate even more changes. Learning is on-going.

Products and process.



# Shared Consciousness

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A community experienced in interacting with each other acquires a sense of shared knowledge and shared values.

We are sometimes able to anticipate one another's thoughts and responses.



# The Language of Fritjof Capra

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Self-Organization

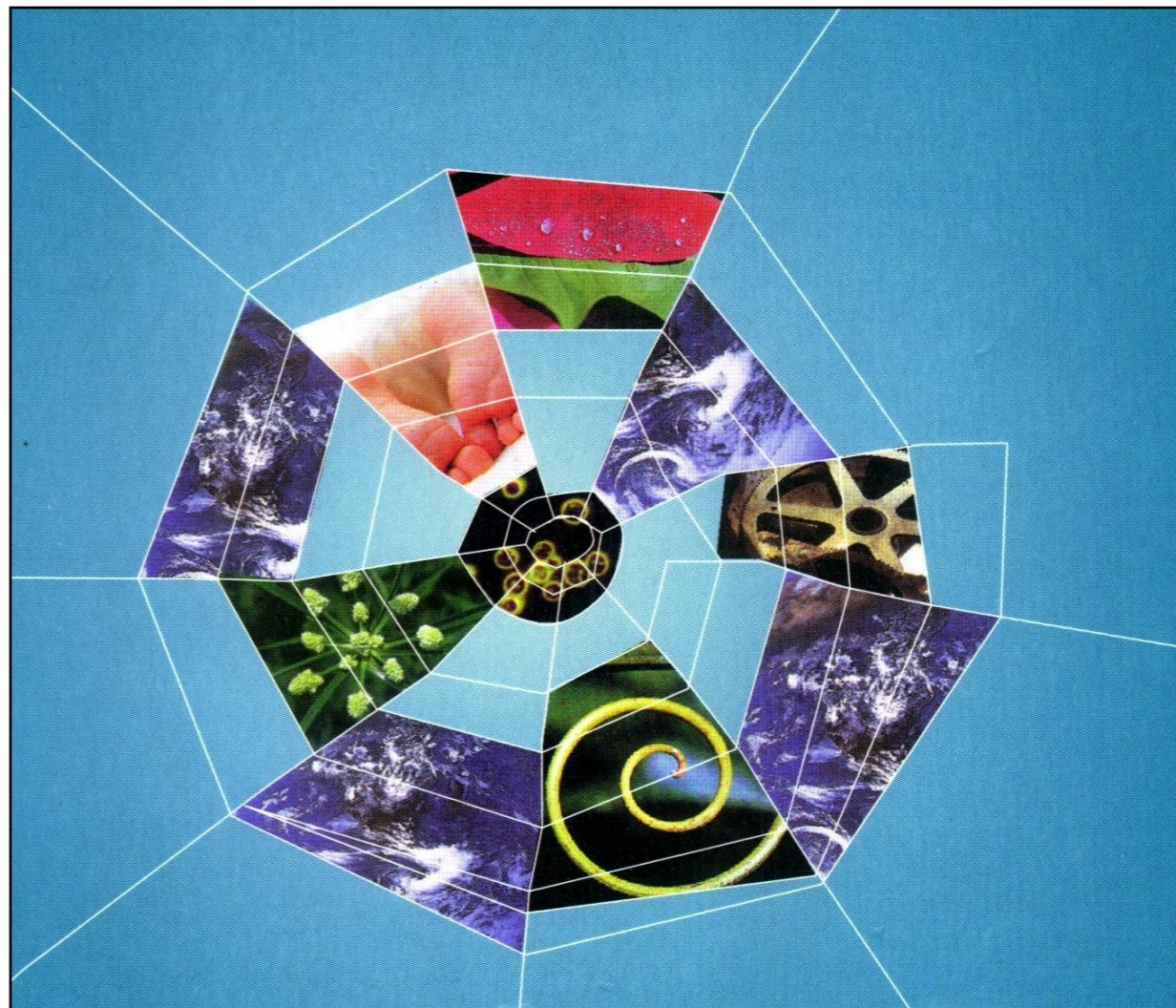
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# Enactivism



Complexity Thinking suggests that teaching should be:

Holistic

Contextualized/connected

Relevant/meaningful

Naturally integrated

Social

Active (physically/mentally Interactive)

# Active Discourse

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Verbal discourse is dominant but not enough to enable inclusion of all children.

Communication for children with limited language abilities must incorporate physical activity.

# Activity Frames

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Negotiated, flexible boundaries in which students pursue their own autonomous choices.

Frames can be narrow or broad depending on many overlapping factors such as experience with a topic, time of year, general mood, energy level, and complexity of the task.

# The Complexity of a Participatory Democracy in a Public Primary Classroom:



# The Interplay of Autonomy and Responsibility

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Students are encouraged to make classroom decisions where reasonable.

Self-Centered Freedom is Constrained by Responsibility



More Responsibility Allows More Autonomy

More Autonomy Requires More Responsibility

Complexity

# Children's Understandings of Autonomy and Responsibility

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Overtly, children tend to conceive of these terms in response to adult discourse:

Responsibility is primarily a sense of duty

Autonomy is of less importance.



In the context of caring friendships, autonomy and responsibility were linked in the minds of children.

# Participatory Democracy

# Participatory Democracy

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- Promotes active participation of all
- Contrasts with popular democracy
- Promotes ownership and belonging
- Requires interaction and discourse
- Promotes autonomy and responsibility
- Continuously developing
- Promotes shared authority

# Shared Authority

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- Authority embedded in the community.
- Teacher has institutionalized authority.
- Sharing of authority can be negotiated.
- Authority is given by assent.

# Decision-making

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## Voting

- Divisive
- Promoted competition
- Power-seeking overwhelmed issues

## Consensus

- Preferred (to honor inclusion)
- Very difficult to achieve



## “Pseudo-Consensus”

1. Teacher decides based on input.
2. Postpone decision.
3. Continue discussion.