Group work in Education: Emergence, coevolution & Learning

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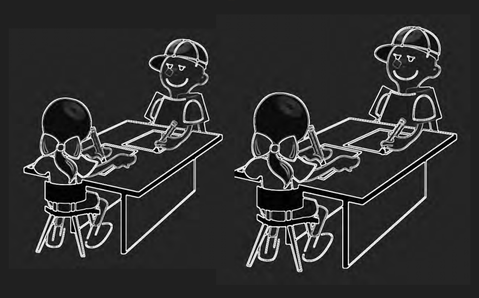
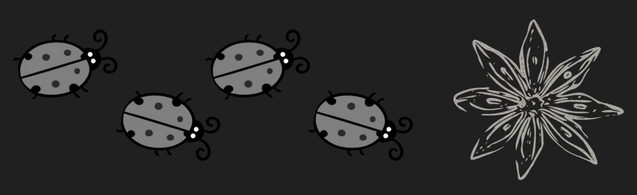
Today, terms like collaborative learning, cooperating learning, group work, and connected learning have become buzzwords. At the same time, advances in complexity theory and non-equilibrium dynamical systems have equipped trans-disciplinary researchers with an array of new theories and ideas –like coevolution, emergence, self-organization, fitness landscapes and bifurcation points– that can be utilized as inspiring and thought provoking metaphors in education. Group-work practitioners in education, in psychotherapy and in other related social fields are currently being offered a brand new set of terms to express, in a transformative way, the challenges that were known to exist in every group process long before. However, the use of complexity terminology in social sciences remains, today, at the level of helpful metaphors. Further work is required to determine the persistence of those phenomena at each new level of observation, ranging from chemical molecules collisions to social group interactions. To this direction, this poster serves as a brainstorming infographic to assist the initiation of an inter-disciplinary inquiry. The formation of interdisciplinary working groups is essential for this inquiry: interdisciplinary groups will go through participants' synergies to produce a whole that is more complex and sophisticated and has emergent properties that cannot be reduced to any linear combination of the properties of its constituents.

Group-work



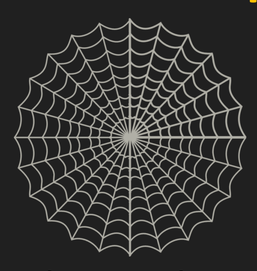
Definition of learning not as an outcome but as a process with duration: participation in a knowledge community.

Learning as a Process



Definition of learning not as an outcome but as a coevolving process with duration: participation in a knowledge community.

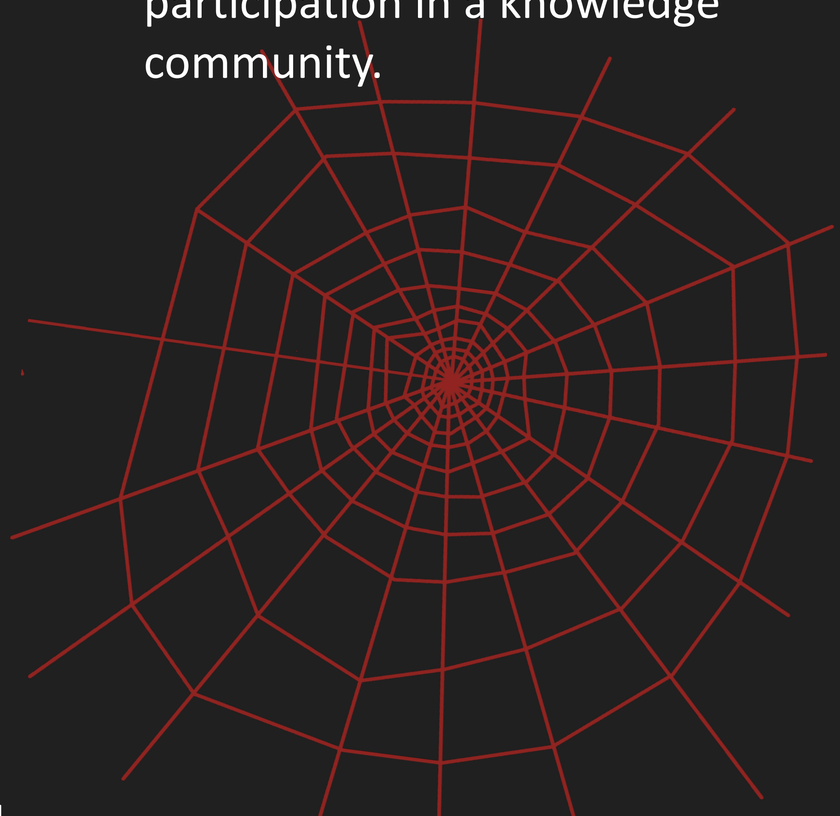
A collective zone of proximal development



Collaborative actions results into the formation of a collective zone of proximal development: what the students' group manages to perform today with the aid of their educational context, will be able to perform it independently tomorrow (Brailas et al, 2015).

Emergence

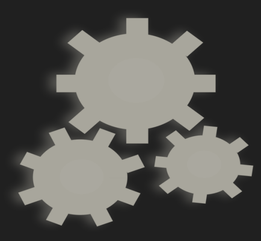
A living system is always situated into a hierarchical context of isomorphic systems with emergent properties that are energy organizing, goal directed and self-correcting (Agazarian, 1992).



The pattern that connects

"What is the pattern which connects the crab to the lobster and the orchid to the primrose and all four of them to me? And me to you?" — Gregory Bateson

Coevolution



"In coevolving systems, each partner clambers up its fitness landscape toward fitness peaks, even as that landscape is constantly deformed by the adaptive moves of its coevolutionary partners" (Kauffman, 1996, p. 24)

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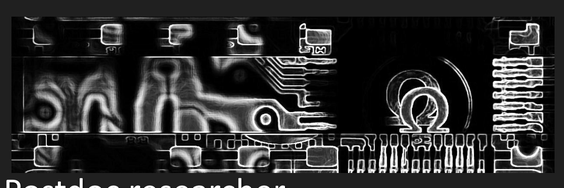

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