Researcher profile

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My journey with Cultural Historical Activity Theory goes back to my doctoral studies as I started reflecting on the limits of traditional science teaching as most of us have experienced it. One theme that is present in my work is the one of trajectory, either it be personal or professional. Trained in pure sciences as an undergrad student, I became a biology, chemistry and physics' science teacher engaged in the reproduction of empirico-realistic experiments with high-school students ie an encapsulated classroom. I was rapidly unsatisfied and understood the importance of going beyond disciplinary teaching. It led me to interdisciplinarity and the high relevance of a much wider number of actors or elements to give meaning to the classes I was preparing. I abandoned textbooks, lab protocols, got involved with socio-sensitive issues in my community and dove into the unknown.

At first, the de-encapsulation materialized in a doctoral thesis that used CHAT and Expansive learning to document how a science teacher innovated and engaged in collaboration with others and experts to go beyond her school. Then, thanks to many partnership fundings, I was able to gather a great variety of research teams including students, principals, teachers, special ed teachers, parents, etc. for a long period of time. I was doing CHAT in the wild,

sometimes up to 7 years in a row and putting to use Developmental Work Research and Change Laboratory methodology. To summarize, the mixing of scholars and practitioners is my expertise as well as the analysis of years of data collected so I can reconstruct the experiential trajectory witnessed in the field.

Documenting high resistance after new curriculum guidelines, I focused on the importance of emotions in the form of conflicting motives as key in the double stimulation process. I have documented how focusing on individual|collective conflicts of motives and joint agency allows to understand why and how participants engaged in expansive resolution of conflicts of motives to collectively progress and expand the borders of their joint activity. To sum-up, expansion needs time to de-capsulate our very complex educational settings as historical and cultural aspects are considered and reconceptualized. Expansive learning goes beyond the individual.

The four texts that I share with you document how, even if conflicts of motives start with the individual, they rapidly reach a collective layer to be resolved and then lead to the definition of a boundary zone where a new form of practice emerges.

Barma, S., Voyer, S. (2023). Expansive Resolution of Conflicts of Motives and Boundary Crossing Activity by Science Teachers. In: Plakitsi, K., Barma, S. (eds) Sociocultural Approaches to STEM Education. Sociocultural Explorations of Science Education, vol 21. Springer, Cham. https://doi-org.acces.bibl.ulaval.ca/10.1007/978-3-031-44377-0_11

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Barma, S., Lacasse, M., & Massé-Morneau, J. (2015). Engaging discussion about climate change in a Quebec secondary school: A challenge for science teachers. Learning, Culture and Social Interaction, 4, 28-36.