Virginie Tessier

Assistant professor, University of Montreal
School of Design, Faculty of Environmental Design
Quebec, Canada
virginie.tessier@umontreal.ca

As a professor and researcher in design, my main research interests focus on design education and the integration of novices in professional practice. I seek to offer relevant insights to adapt and update design training to ensure novices are valued for their true potential to contribute to the complex challenges of our societies. Designers master skills that motivate innovation and long-lasting changes in uncertain contexts guided by human-centered methods and iterative creative processes. My past and present works have tackled subjects like teamwork and collaboration, design process, collective cognition, and, more recently, sustainable design initiatives. Over the years, I have explored many different uses and potentials for activity theory in design research around these subjects.

My Ph. D. thesis[1], published in 2021, offered a deep dive into the use of activity theory as a strong theoretical, methodological, and analytical framework in a research discipline that is not quite accustomed to such rigorous and in-depth use of theories. Questioning the development process of teamwork skills in design workshops, my thesis contributions shared a model of teamwork skills for professional disciplines structured around the fundamental principles of activity theory. The model[2], developed in stages, is thoroughly justified in relation to activity theory principles and concepts to gain more coherence. The second part of the analysis is also based on the theory of expansive learning, which allowed to share important insights on collective cognitive processes as part of shared design projects[3]. I was also able to visually reconstruct the expansive stages of individual learners as part of shared team projects.

This work allowed me to gain a thorough understanding of the theory and its potential, which I seek to continue exploring in the future. I see very strong similarities between how cognition is expressed in CHAT and expansive learning frameworks and design reasoning processes (among others, systemic perspective, multivoicedness, and progressing from abstract to concrete). Design being a somehow recent area of scientific research, the exploration of such promising theories can offer high potential for the development of the field. Recently, I have focused my reflections on the shared principles between expansive learning and design projects and design thinking.

Moreover, my past and present funded research projects have been centered on the social influences and impacts of sustainable or durable design initiatives. Although design students are well aware that design initiatives should be economically and environmentally sustainable, they are less accustomed to thinking about the important social influences of sustainability. In this research initiative, I value CHAT to identify and better understand social actors or mediators during and after the design process. I am now conducting a series of semi-structured interviews with professional designers with experience in sustainable initiatives, which will be analyzed with CHAT and expansive learning. The

method is highly influenced by the analysis framework I shared in my thesis. A pilot study was conducted last year to test the method. The pilot allowed to confirm that we were able to identify contradictions and challenges, represent them visually, and study the expansive learning process.

Finally, since 2018, I helped develop the designerly activity theory model[4] by working alongside my colleague Prof. Mithra Zahedi. The model, based on the analysis of multiple design in situ case studies, offers a framework adapted for the study of designers and design activities. We proposed an expansion of the model structured with design-specific components and related to the original model. This tentative proposition offers multiple benefits for the study of design activities – among others, it is a structured and well-thought framework to study design activities or to use to structure reflection-on-action. In our last explorations, we used the model to organize research-through-design[5] processes of design students and encourage their reflectivity.

[1] Tessier, Virginie. (2021). Étude exploratoire sur le travail en équipe d'étudiants dans l'atelier de design : vers un modèle d'évaluation pour l'apprentissage basé sur la théorie de l'activité et l'apprentissage expansif. Ph.D., Université de Montréal. https://hdl.handle.net/1866/25512

[2] Tessier, Virginie. (2021). A model for learning teamwork skills. In *DS 110: Proceedings of the 23rd International Conference on Engineering and Product Design Education (E&PDE 2021)*, Vol. Innovation and Creativity in Design and Engineering Education. Herning, Denmark: The Design Society. https://doi.org/doi.org/10.35199/EPDE.2021.5.

Tessier, Virginie, et Mathilde Carbonneau-Loiselle. (2023). Assessment for Learning of Design Teamwork Skills. *The International Journal of Art and Design Education* 42, nº 3: 420-38. https://doi.org/10.1111/jade.12461

[3] Tessier, Virginie. (2022). Expansive Learning for Collaborative Design. *Design Studies* 83, nº C: 24. https://doi.org/10.1016/j.destud.2022.101135

[4] Zahedi, Mithra, et Virginie Tessier. (2018). Designerly activity theory: Toward an ontology for design research. In *Proceedings of the Design Society - Catalyst*, 1:319-33. Limerick, Irlande: Design Research Society. https://dl.designresearchsociety.org/cgi/viewcontent.cgi?article=1549&context=drs-conference-papers

[5] Tessier, Virginie, et Mithra Zahedi. (2021). Novice designers tackle and reflect on their process using the designerly activity theory. In *Proceedings of the Design Society*, 1:2257-66. Gothenburg, Sweden: Design Research Society. https://doi.org/10.1017/pds.2021.487.

Zahedi, Mithra et Virginie Tessier. (2023). Le modèle de la théorie de l'activité pour le design : un outil à explorer pour la recherche-projet. Dans les actes de la conférence *Modélisation de l'activité* (ModACT 2023). 10-12 mai, Paris, France. hdps://doi.org/10.25518/modact2023.57