

## **Creativity in situ, the art of living mathematics in a school setting**

Xavier Robichaud and Viktor Freiman  
Université de Moncton, New Brunswick, Canada

Since the humanism's stance that could be traced back to the Renaissance, creativity always been a focal point in the artistic domains of our society, whether in the visual arts, music, writing, etc. "Art can be considered as a prototypical field of creativity." (Botella & Lubart, 2016) In this respect, *in situ* creativity would be an artistic environment, where sharing creation, working together, and putting singularities in common is what matters (Delory-Momberger, 2016). In education, it is a place of co-creation where the knowledge of the teacher's erudition and the knowledge of the students meet (Delory-Momberger, 2016). Many schools in New Brunswick embrace project-based and collaborative learning that promote creativity by allowing students to design and manufacture objects by their own initiative (Freiman et al., 2022; Freiman, 2020). However, the role of *in situ* artistic creativity in these projects and its connection to mathematics remain underestimated.

In 2021, to study *in situ* creativity in an artistic project-based setting, we conducted collaborative research with four Grade 4 teachers and their groups of students, 65 of whom have agreed to participate in the research. We opted for an interactive book which was perceived by the teachers as an opportunity to integrate several school subjects including French language, through stories written by the students; visual arts and mathematics through students' drawings to illustrate the story – which also incorporated geometric shapes to reflect characters of the story protagonists. It also integrated music and computer programming, through coding recorded environmental sounds and pre-recorded music by students using the *Scratch* software. Several sessions of one and a half hour once a week over the four-month period were devoted to students' work on the different components of the project. During these sessions, the students in groups of two or three created their drawings, their chapter of the story and their soundtrack.

In this presentation we will discuss the role of visual arts and music in providing a situation in which mathematics can emerge, be incorporated, and be experienced through embodied cognition encompassing movements, ideas, actions, and peer interactions eventually leading to new ways of thinking (Tran et al., 2017). We will also highlight possible tension that occurs between students *in situ* creativity and spontaneous emotions and teachers' needs to accomplish specific curricular goals.

### **Reference**

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