

Nora Franzova (Langara College, Vancouver)

Education Notes brings mathematical and educational ideas forth to the CMS readership in a manner that promotes discussion of relevant topics including research, activities, and noteworthy news items. Comments, suggestions, and submissions are welcome.

Les Notes pédagogiques présentent des sujets mathématiques et des articles sur l'éducation aux lecteurs de la SMC dans un format qui favorise les discussions sur différents thèmes, dont la recherche, les activités et les nouvelles d'intérêt. Vos commentaires, suggestions et propositions sont les bienvenus.

John Grant McLoughlin, University of New Brunswick (johngm@unb.ca)

Kseniya Garaschuk, University of the Fraser Valley (kseniya.garaschuk@ufv.ca)



The mathematical community at large is engaged in many endeavours at any given time. *Education Notes* offers an avenue for bringing attention to efforts bridging education and mathematics. The sharing of pertinent activities is encouraged. One such activity took shape in the summer of 2023 in Banff. A brief report on the experience is offered here from Nora Franzova, one of the participants at the workshop.

*“Every year on a second Thursday
after the first full moon in July—
follow the Hoodoos Trail for 10 minutes
down the slope through the woods
to where it meets the river.*

*Mathematicians, artists and friends
are invited to swim together from
6pm – 7pm.”*

This invite can be found in a framed picture in one of the downstairs breakout rooms of the TransCanada Pipelines Pavilion in [Banff International Research Station \(for Mathematical Innovation and Discovery\)](#). The photo next to it depicts a happy group (most likely mathematicians) in bathing suits braving the shallow waters. The photo is not recent, but it made me wonder if this event is still happening. I was unable to check since the workshop I attended was a week after the second Thursday mentioned in the note.

The workshop that I attended was entitled *Putting Together Resources to Support Current and Future Elementary School Teachers*, and the organizers were Melania Alvarez Adem (UBC), Pamela Brittain (Fields Institute), Shawn Desaulniers (U Alberta), Frédéric Gourdeau (Laval) and John Grant McLoughlin (UNB). Perhaps missing from the title was that we would be creating resources only for our favourite subject, **mathematics**.

The organizers applied for the grant over two years ago, and now their efforts were ready to start to shape and bear fruit. During the introduction round I was fascinated by a very diverse group of participants with representatives from several universities (capturing the French and English speaking audience), elementary schools, and specific programs (like PIMS, JUMP Math, and Fields Institute). All of the participants have the mathematical preparation of future elementary school teachers as one of their professional priorities.

The meeting was held in mixed mode (a couple of participants were online only) and soon it was clear that we all came with a vision of what is needed, what can be done and what needs to be done.

We started by sharing many amazing resources that we all have used and enjoyed. Here is where our **passion** for mathematics really showed. Presentation of these readily available materials filled the program of the first day. Resources were from various parts of the country (both in French and English), and they ranged from preparation for elementary school teachers, through materials used directly by teachers to materials used for professional development of secondary school teachers. There is an incredible number of resources already prepared and ready, and we had a lot of fun comparing and sharing ideas, topics, games, puzzles, book titles, and prepared lecture notes. Here we realized that careful **planning** is needed if we want to create meaningful additions to the already plentiful materials.

The next step was to define our **purpose**, since we noticed that we are mixing two large topics – materials that elementary school teachers use in their classroom and materials that we use in our classrooms while teaching the future and current elementary school teachers. Discussion naturally flowed between the two and several times we had to step back and make a focused decision about what we wanted to talk about. We also needed to clarify that our purpose was not focused on pedagogy but rather on the content and learning outcomes of the mathematics courses that future elementary school teachers take.

After stepping back from the initial excitement, we split the workshop into four groups that were each assigned a subject to tackle: *Fractions, Numeration, Geometry, and Algebra*. One might argue that other areas should also be included, but when we did our short prioritizing exercise, these four areas emerged as key points to address.

Each group started by gathering materials and preparing a few paths in tackling the topics. The following days were divided into short presentation talks and breakout session discussions within each topic area.

I have emphasized three P's of success (Passion, Planning, Purpose). However, it is actually known as the Four P's of success. The fourth P stands for *perseverance* and that is what we need now. After the week in Banff we realized that while this project exists in our minds loud and clear, it will take no small amount of work for our goals to be achieved. To complete all that we hope to do, we need at least two years, financial and technical support and lastly, but perhaps most importantly, perseverance. We need to be working on the project and coming back to our mission similarly like those mathematicians, artists and friends, mentioned at the beginning of this article, that come back

“Every year on a second Thursday
after the first full moon in July —....“

We too will hopefully come back.



Participants of the *Putting Together Resources to Support Current and Future Elementary School Teachers* workshop, in Banff, July 23rd, 2023.

Summary: The diverse group of mathematicians, math educators and math enthusiasts that met in Banff on July 23, 2023 was able to close their meeting by drafting a mission statement:

Our objective is to provide materials and resources to strengthen the understanding of elementary school mathematics for both future and current teachers. This will be achieved through engagement with mathematical experiences designed to inspire curiosity and enjoyment through doing mathematics.

Watch for more to come.

Editor's Note: Those interested in learning more about the project can find a description along with select contributions to the workshop at <https://www.birs.ca/events/2023/5-day-workshops/23w5150>.