

# PD29453 - PDIG JOURNAL PAGE

## **Games and activities for grade 1**

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### ***Introduction***

This project is all about creating grade 1 math lessons that incorporate Universal Design for Learning (UDL) approaches, in French. The goals of a UDL classroom are to provide multiple means of engagement (purposeful motivated learners), representation (resourceful, knowledgeable learners) and action and expression (strategic, goal-directed learners) (*udlcenter.org, 2017*). This means changes to our teaching styles and materials as well as additional resources. Since there are few resources available in French with this type of approach, we felt the need to create a variety of lessons to be used going forward. We also

### ***Project Description***

We had originally planned to create a bank of lessons and activities using the UDL approach and incorporating the strategies learned by Yolanda at the LCEEQ summer math institute during 3 summers, in conjunction with the Numérik program our school uses. However, after our first meeting, upon exploring and using the newest version of Numérik (re-made for the 2019 school year, modules received gradually over the first 4 months of the school year), we realized that the publishers of Numérik had, in fact, already created many innovative, interesting and adaptable lessons and games to explore and teach each concept. Upon use, we realized that their suggested lessons, teacher guides and games were exactly what we were working on. Rather than “reinvent the wheel”, we decided to build many of the games/lessons suggested in Numérik and complement them with additional lessons, especially for situational problem solving. As the pandemic has introduced us to the new reality of online learning, we also created a website for our grade 1 classes. We made a page where the parents and students can access from home to practice the skills prescribed in grade 1. The games we chose to physically create to be used in class, as well as the online activities shared on our website were chosen in order to help the students

understand information. With these games and website activities, the students can convey the newly taught information clearly using language appropriate to mathematics: terminology, graphics, notation, symbols and codes as required in the Essential Knowledges in the Qubec Education Plan.

Day 1, Oct 27 (4 teachers) We discussed the new Numérik program in general since it changed 2 years ago. Some concepts are taught at different times during the year from before, so we will have to adjust when we work on which concepts to maximize our resources this year (as well as going forward). Using the Numérik "On joue" games as a guide, decide which of those games we will build for each class. From there, we decided which manipulatives needed to be bought to create/use those games as well as other games and activities found or created by teammates. We also decided to each follow the suggested teacher guide in Numérik until the next PDIG meeting date to determine its efficacy.

Based on our experience with the new Numérik program and the previously discussed plan, we wrote out lesson plans/games/activities for each week of units 1-4 including a "timeline". We discussed and noted suggested introductory lessons to establish prior knowledge of concepts to target class and student needs. We also translated some great activities from English to French.

Day 2, Nov 3 (4 teachers) We wrote out lesson plans/games/activities for each week of units 5-8 including a "timeline". We discussed and noted suggested introductory lessons to establish prior knowledge of concepts to target class and student needs for the next lessons. We dedicated mostly to scanning, printing and laminating to build the games/activities for units 1-8. As always, we discussed and noted suggested introductory lessons to establish prior knowledge of concepts to target class and student needs for the next lessons.

Day 3, Nov 10 (4 teachers) Due to the vast amount of materials we had to put together, we needed this day to continue to build the actual manipulatives needed for many of the activities. As always, we discussed and noted suggested introductory lessons to establish prior knowledge of concepts to target class and student needs for the next lessons. We also began to work on creating a cohesive bank of situational problems for both teaching and evaluating, to ensure as much consistency among the grade.

Day 4, Nov 17 (4 teachers) We completed scanning/cutting/laminating/building the games for activities for units 1-8. We also continued to create a bank of teaching and assessment tools for situational problems, organized by theme/term. Using the feedback from all 4 teachers, we discussed the overall success of our PDIG and planned the final report.

## ***Project Goals***

Our main goal for this project was to create hands-on, innovative, interesting, and class-friendly math lessons and activities, based on the UDL approach, that will reach all types of learners. We wanted to provide learning opportunities that allowed students to collaborate and learn together while still offering a variety of materials/lessons. We also wanted to implement these lessons in our classrooms in order to assess and evaluate their effectiveness and modify as needed. Another goal was to share the knowledge Yolanda had acquired during the Summer Math Institute over the past few summers. Lastly, we wanted to uniformize how and what we were teaching across the grade to offer students the benefits of our combined experience.

Overall, we met all our goals for this project, though not necessarily in the way we had originally planned. The fact that the publishers of Numerik took the feedback from teachers across the province and created lessons and activities in line with the UDL approach made part of our task easier. We were able to focus less on looking for or inventing from scratch the lessons we wanted, and focus more on the pedagogy and implementation of the UDL approach in math across the grade, as well as having the time to actually build the materials needed. While building the manipulatives and physical components of the lessons, we were able to discuss HOW to use them in class (classroom management, observation of understanding pre-evaluation, different ways to reach those struggling students or unconventional learners). These open discussions led to a more cohesive vision of how math can be taught differently, while still obtaining the desired outcomes. These meetings also allowed us the time to share the knowledge acquired by Yolanda at the LCEEQ Summer Math Institute, as well as the information and training each member of our team had received during various other learning opportunities (ESD workshops, online seminars, books read, discussion with teachers at other schools/levels etc.). We looked at the efficacy of math journals, of working in partners vs alone or in small groups, of using manipulatives vs pencil/paper only, of memorization versus understanding basic facts.

## ***Project Outcomes***

As mentioned in the *Project Goals*, the gains we, as teachers, were hoping to attain were to build materials and create lessons to incorporate the UDL approach in Math in grade two, to improve our understanding of the UDL philosophy and how it can be implemented and to become better teachers by learning from our colleagues. Through this Professional Development and Innovation Grant, teachers have achieved the following:

- Continued to develop an expertise in UDL to support their students' learning
- Effectively found and created math lessons, activities, manipulatives and tools
- Compiled a bank of math lessons in French using the UDL guidelines
- Prepared themselves to engage students to be active learners
- Continued to develop skills to help students become lifelong learners by understanding their own learning styles and needs
- Developed teaching material so that all students within a classroom can learn effectively, regardless of differences in ability
- Shared valuable insight gained from a variety of sources, thus improving our efficacy in class

## ***Reinvestment***

Since our school board is moving towards a Deep Learning approach, these lessons and activities will help our colleagues become more comfortable with UDL (vs traditional teaching). This will also help prepare our students to become lifelong learners and take initiative in their learning, which will benefit our educational community as a whole.

We have put together a Google Drive folder containing all of our digital resources for implementing/printing our games/activities/lessons. Please note that many of these are copyrighted to ERPI (Numérik 1re année) and therefore can only be used by teachers using the Numérik program.

We are sharing this Google Drive folder, where all the info on the games can be found: <https://drive.google.com/drive/folders/1cQEpnCVIBsfV0XKsxcpAlhro1OQZ29Du?usp=sharing>

And here is our website:

<https://sites.google.com/lbpearson.ca/grade1westpark/fran%C3%A7ais/lheure-du-cont>

If our colleagues are interested in applying for a PDIG to develop similar lessons and activities for their grade levels, we would recommend that they attend workshops on

UDL, Deep Learning, 6 C's, Summer Math Institute, Daily 5 and Café, that they start small (choose one subject area, ie Math) and build their way up and that they seek out other staff members who have implemented or started implementing this approach to have a starting point to build off of. This last point would also help alleviate the pressure of starting from scratch.

In our school, we have reached out to our colleagues that teach math during a ped day. We are also planning to present this project during the August ped days. We have also reached out to grade 1 teachers in our school board as they seemed interested in what we have done.