

Project Description: Situational problems have proved to be a very challenging concept to teach young students. The students have a lot of difficulty working through numerous new concepts to solve multi-step math problems in their second language. To help young learners be the most successful in this competency, we wanted to simplify the language by using more familiar vocabulary and create a more user-friendly workspace for them. During this PDIG, we have worked together to go through the progression of learning as well as the situational problems and tools created by the school board in hopes of adapting them to meet our students' needs and creating a bank of problems that would correspond with our Numérik math program. After sorting through the school board's situational problems options, we found it challenging to find problems that corresponded to the same concepts presented in chronological order with our math program. We realized that adapting the situational problems offered with our Numérik program would be far more beneficial for our students. We decided how the problems would be presented to the students and agreed that it was very important to create a uniform plan of action for each one to have consistency between the way the problems will be presented to the students. We created a step-by step instruction sheet for many of the problems and have also changed and adapted the student's worksheets in order for them to be able to present a clear and well organized workspace to find each problem's solution. Evaluating situational problems can be quite complicated so we decided that it was important to simplify the marking process as well as pay attention to evaluating each concept within each situational problem. The adapted student worksheets that we created have two copies, one for the students to work on and one for teachers which includes a simplified grading system.

Project Goals:

We were able to achieve the goals set out for this project by creating more accessible materials for students, particularly facilitating problem solving for anglophone students who struggle with the reading comprehension required to complete these problems. We developed a step by step guide to instruction to facilitate the teaching of each problem to students. The materials we adapted now provide students a clear space to show their work and understanding of the concepts. Finally our goal of streamlining the evaluation process for situational problems was met by providing a clear breakdown of marks for each problem.

Project Outcomes:

The collaborating teachers were able to convene and discuss the collective difficulty we have had in teaching problem solving. This collaboration allowed us to pinpoint where the real challenges are that we all share and discuss appropriate solutions to better our collective instruction. It was overall a motivating experience that allowed us to get on the same page about this aspect of math instruction. Each teacher now has an in depth understanding of how to approach problem solving in their class making the task much less daunting. We are all now equipped with the problems to teach, the order we will use them, how they will each be evaluated, as well as a well thought out step by step guide to using them in class. All material is now organized and accessible to all the collaborating teachers and will greatly facilitate the preparation required for teaching problem solving in our respective classes.

Reinvestment:

The resources created during this PDIG would be a benefit to any grade 1 teacher that uses the Numerik books in their class or any teacher looking for a more concrete approach to teaching problem solving. Teachers would particularly benefit from the breakdown documents that outline a step by step method to teaching each situational problem for the themes within the numérik books. It offers them a comprehensive guide that will greatly simplify their classroom instruction and significantly reduce their preparation time. It is also a great benefit to grade 1 students, particularly those who struggle with the organization of their work, as they now will have access to a detailed solving sheet that facilitates their following the required steps and showing the work required to complete the problem. Finally it would also support teachers in their evaluation of the problem solving competency as they would have access to the evaluation breakdown of each problem which ensures students are grasping all concepts explored in the problems. This also streamlines the evaluation across the grade team, ensuring students of differing classes are being similarly assessed.

Final Report: Situational problems are difficult for many students of all ages to complete successfully. Using our Numérik math program, the school board resources and expectations as well as the progression of learning, for the 12 problems we selected, we created a plan of action, a clear and easy to use worksheet as well as a simplified marking grid. These adjustments to our teaching methods for situational problems will surely benefit the students by creating learning situations that are easier to comprehend and workspaces that provide a clear opportunity to show their work and understanding.