Research Report on Smarter Science Released!

Mer, 2012-04-11 17:04 -- Mike Newnham

Featured Image:

?Smarter Science is a very meaningful and effective framework directly correlated to the Science and Technology Scientific Inquiry Skills Continuum in the curriculum document which is based on the Pan-Canadian set of categories.?

?I?m thinking it?s more of an approach than anything else, so I?m inferring that it is a way to become a little bit more purposeful in the steps of science and to make it match more explicitly with the Ministry curriculum in terms of the skills of science.?

?Smarter Science is an approach to teaching inquiry that de-mystifies the process and makes it easy to break down and explain and share with students. It?s a very systematic, very precise way of making [inquiry] explicit in a variety of different ways. It?s very visual and concrete.?

A year long study of the Smarter Science framework has demonstrated that it has been beneficial in improving inquiry-based science teaching. Three researchers, Maurice DiGuiseppe (UOIT), Xavier Fazio (Brock) and Isha DeCoito (York) assessed educator and non-educator opinions about Smarter Science. "The findings in this study overwhelmingly indicate that Smarter Science professional development exercises are valuable and should continue and grow. Most would participate in more of these activities, and all would promote and recommend these activities to colleagues."

A Summary of Findings:

Positive

1. Classroom teachers and non-teacher educators found PD activities, including Smarter Science PD, to be very useful in gaining a better understanding of science inquiry and in learning new teaching and learning strategies for addressing scienitific inquiry more adequately in their practices.
2. Over the course of the study, teachers experienced improvements in their understanding of scientific inquiry and their confidence and proficiency in implementing more student-centred forms of inquiry in their practices (i.e., guided and open inquiry).
3. Most of the teachers and many of the non-teacher educators ascribed these changes in confidence, proficiency, and practice to their participation in Smarter Science PD workshops and other PD activities.
4. Classroom teachers, in particular, indicated that their confidence and proficiency in teaching scientific inquiry improved directly as a result of applying the Smarter Science framework, and incorporating Smarter Science inquiry activities, in their

lessons.

Challenges

Teacher and non-teacher educators who attempted to implement the Smarter Science framework in their practices experienced the challenges that follow:

1. Limitations on the amount of time they had for professional development and implementation of new programs and approaches
2. Constraints on the availability of suitable materials and equipment for new science programming
3. Lack of interest and commitment in implementing alternative approaches to scientific inquiry on account of more pressing curriculum emphases
4. Lack of adequate resources for effectively educating teachers on the meaning of the Smarter Science framework and the strategies for implementing it in the classroom.
