

2007-2008



Exploring the Impact of Smart Board Technology on Student Engagement, Teacher Engagement, and Student Achievement



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Essential Question

How will working collaboratively in an inquiry setting to explore and implement Smart board technology in our classrooms influence instructional strategies that promote student achievement?

Project Overview

The MISA PNC provided support for action research to be conducted in our board. There had been a great deal of excitement about SMART Boards. The participants had an interest in technology and increasing the engagement of their students.

Getting involved in this Collaborative Action Research project gave the team the opportunity to not only use technology but time to collaborate, share strategies and investigate this as an effective tool in student learning.

Data Collection Methods and Analysis

Surveys (pre and post) were administered to students and parents to investigate student attitudes to learning and other student perceptions.

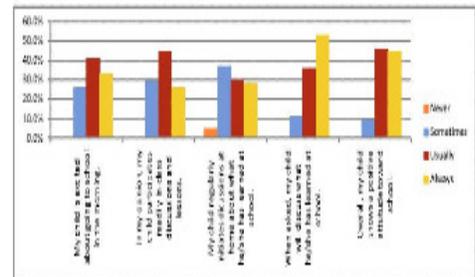
The team met to discuss items that would be included in the pre-survey that would also align with the essential question of the action research. For purposes of this action research, the pre-survey refers to a survey of the parents and students prior to any discussion of SMART Boards or any exposure to technology in the classroom. The pre-survey was reviewed again in late spring to inform the post-survey. The pre-surveys were conducted in October 2007 and the post-surveys were conducted in June 2008. The results were compiled and graphically displayed by the research consultant for the school board.

Teachers recorded their thoughts and observations in a reflective journal. However, rich discussions, reflection and observations often took place informally in the hallways and staff room. These dialogues increased over time, built momentum for the team and served to strengthen pedagogy. Teacher observations and student-comments became the mainstay for the data collection.

Parent Survey
Your Child As A Learner

	Never	Sometimes	Usually	Always
My child is excited about going to school in the morning	0.0%	26.0%	41.0%	33.0%
In my opinion, my child participates readily in class discussions and lessons	0.0%	29.0%	49.0%	22.0%
My child regularly initiates discussions or raises about school or homework issues	0.0%	17.0%	50.0%	33.0%
When asked, my child will discuss what he/she has learned at school	0.0%	11.0%	56.0%	33.0%
Overall, my child shows a positive attitude toward school	0.0%	9.0%	59.0%	32.0%

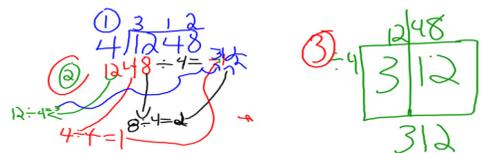
Sample of the Parent survey results



SMART Board Capture of Students' Work

Samples of students work were captured throughout the year. Students were encouraged to use the SMART Board technology for their projects and as visual aids for their presentations. One of the features of the SMART Board technology enables teachers to save and store students work for future reference. These captures are evidence of the level of sophistication students displayed in using the SMART Board technology and the ease in which they did so.

Grade 5 students explore a variety of strategies for division.



Key Concepts

- Teachers collaborate and identify the positive impact the SMART Board technology has on the student body.
- Teachers are able to collect more useful data with respect to formative assessment.
- SMART Boards give the students a hands-on approach; they are able to identify a variety of different learning strategies that their peers are using to solve problems.
- Overall, the use of the SMART Board by teachers has increased their confidence level with technology and computers.



Results and Findings

More collaboration is necessary to maximize the potential of the SMART Board technology. The participants shared information about instructional strategies, tools, and materials in a less formal manner. However, a weekly or monthly meeting would be more beneficial.

The inquiry setting has provided an opportunity to share and support each other while learning new technology. It has motivated the teacher participants to implement the new strategies in the classroom. Collaborating has encouraged the participants to explore the technology more readily, reflect more on their learning and engage in dialogue more frequently.

A significant feature of the collaborative action research is that the process has created a student-centered approach to using the SMART Board in the classroom. Because they were genuinely involved in using the interactive white board, students were given many opportunities to direct their own learning, and create a culture of a community of learners in the classroom. Not only did students become savvy in using the technology, they became active learners in the classroom. Learning to use this technology with the students has created a unique opportunity to show the students that the teachers are learners too. Teachers had more confidence to go through the learning process with students knowing they could bring their questions back to the team.



Grade 3/4 students brainstormed thoughts on Easter.

Thursday March 27, 2008
Easter is... time to spend with family
Easter eggs church time to rejoice
bunnies
chocolate Important loving Jesus rose
exciting fun love for Jesus
can't say Joyful a time to celebrate
e.ggs Hunting for eggs charity for the poor
new life no school a time to relax with family
hope flower Celebration
new beginning

2008
March Break should
~~start~~ We
more rest so when
we come back to school we
will be more concentrated so
we will learn more things.
There is more
then summer
March Break
ing is we could
re-fine with our
most children
cause bearly

Grade 4/5 students create a class prayer together.

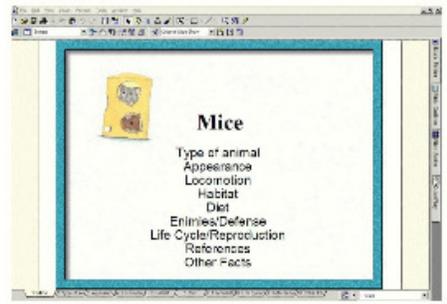
A Class Prayer
Dear God,
Teach us to always remember
to act justly,
to love tenderly,
to walk humbly,
to serve generously,
to live peacefully,
and remind us often to love our neighbour
as we love ourselves.
Amen.

I'm going to write more notes to Noah.
I will help the homeless.
When I have some extra money I will give it to the people who need it more than me.
I will donate money to the poor.
I am going to talk to my friends and help on the phone more often.
I will share with my family.
I will donate lots of food to the hungry.
I will donate healthy and nutritious food to the homeless so I can feed the hungry.
I will help my neighbour with her bags.
I will keep everyone in my heart.
I will be nice to people and care for people and pray for people that are hurt and help who needs help.
I will think of others, not just myself.
I will call my Dad more often.



Appendix C
Samples of Student Work

Grade 3 students created Corel Presentations for their Wild Animal Reports in the computer lab and presented their projects to their class on the SMARTboard.



"Having a SMART Board makes the class come alive and everyone wants to use it. It's very interactive and FUN."
Grade 6 student

"It's made science more interesting and now I like science more."
Grade 3 student

Reflections and Actions

Although the action research project has officially ended, the teachers are motivated to continue to use the technology, to encourage students to use the technology and to collaborate with fellow teachers in developing lessons and strategies. Specific actions taken include the purchase of a SMART Board for every class in the school. This will facilitate the opportunity for every teacher to be involved in discovering the uses of the SMART Board and it's affect on student learning. It is hoped that the rich discussion, both formal and informal, will continue not only in the school but among other teachers in our board.

