

# SMART Board Action Research Report

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## **What am I trying to improve?**

As a Technological Design teacher I am constantly looking for ways to effectively demonstrate software applications. The two main problems that I encounter are: the ability for the student to see what is on my computer screen and capturing the student's undivided attention. Typically, students tune out and race to complete the first step in a set of three instructions I am delivering, but by doing so they miss hearing steps two and three.

## **Can the SMART Board help to improve what I am trying to improve?**

I intend to use the SMART Board technology to do an AutoCAD tutorial. It is a one class lesson to show the student how to use the software to communicate, for instance, their design to a manufacturer to build. This is a critical lesson for them because it is their first exposure to a fairly complicated program. As I mentioned earlier, students are great at completing the first set of instructions and then valuable class time is wasted as students start to work ahead on their computers. They tend to ask for direction on what was just taught, but they have no consciousness that I already gave that instruction. Unfortunately, their enthusiasm gets the better of them. The other issue is that students that listen and complete the task well and in a timely manner are destined to wait as the others get caught up. I also desire to get them excited about the lesson at hand before potential frustration sets in from not being able to perform their task. If SMART Board can help with this challenge, that's great!

## **What data will I collect to enable me to judge the SMART Board's influence as I answer my question?**

Considering what it was that I was trying to improve, assessing the results is communicated by how well the students received the instructions and then how well they applied them. The results for me will be instant. The grade 9 class that I presented this lesson to was an Integrated Technology course that rotates among Technology teachers three times a semester. If I teach the same lesson the same way as the previous rotation and there are less follow up

questions and the lesson is completed well and in lesser time, then SMART Board will have proven its worth.

### **What did I discover?**

The results of the lesson were very good. Not only were the kids tuned in because of the novelty of having the technology in the classroom, but the lesson took probably 15% less time, the follow up questions were much less and the product they produced was exactly what I expected of them. In summary, one could say that SMART Board is an effective way of communicating lesson material in a manner that is absorbed by the students that I encounter.

I found SMART Board to be wonderfully interactive. I was able switch between programs with ease to show examples from other programs and photos of exemplars from previous classes as I did my AutoCAD demonstration. The other thing I like about the set up is that I can interact with the students better. In other words, I was able to engage them directly and was able to make assessments of their progress as I presented the lesson because I was facing them more often. Normally, I would need to gaze into my computer screen to demonstrate a lesson looking up from time to time, but the lack of visual contact restricts that format.

I will admit that more practice and developing better interfacing tools and methods with AutoCAD would be beneficial to my presentation. The confidence in what I was doing was not present as it was my first lesson with the technology. I understand that specific drivers are available for this particular program and if I were to use SMART Board on a regular basis I would invest the time into proper setup as it would be an asset to me.

### **What is my conclusion?**

I think the SMART Board made a positive impact on my lesson plan. The one negative would be the set up time and space it took up in the classroom. If this technology was to be a permanent addition to my classroom, that would be a welcomed addition! I would then rearrange the furniture in my classroom to accommodate the SMART Board. Other than that, I would endorse the use of this technology in my classroom on a regular basis, if the resources were made accessible to me.

## Using Smartboards to Facilitate Poetry Unit Delivery in ENG 2PI

As an English teacher for many years I look forward to teaching poetry to my students because it is one of my favourite genres for expressing thought. I also like the challenge of trying to change the traditional student opinion that poetry is his/her least favourite genre. But at the same time it is sad that students will shut down and not even try to engage the material. This time around I wanted to add a Smartboard to my arsenal of teaching tools to see: **could I create more interest in our exploration of poems by using such technology?**

The ultimate goal of the poetry unit is to give the students the tools to pick up a poem, previously unseen, and read it and understand it. Assessment would be a test or exam whereas I give the students a poem and ask them to read the poem and then demonstrate their understanding by answering questions about the poem. To prepare students I would usually read a great many poems and practice interpreting the message/ theme/topic. We would use handouts and poetry books and discuss the poem. Sometimes something would be written on the blackboard. It is a teacher directed lesson in which the teacher has to work hard to maintain interest and drag the answers out of the students.

With the Smartboard I wanted to bring poems up on it and then use the writing tools to mark on, and highlight, and circle, and underline, and illustrate key aspects of the poems and therefore assist with understanding. Using the University of Toronto Canadian poets website we were able to link to a list of poets and their works. I began by pulling up some poems and reading them to the class. As we discussed the poems I would begin underlining key words that we needed to define. I further wrote on the screen over the poem as we discussed ideas and themes. Sometimes I drew illustrations (ie. showing what galoshes looked like). After I modelled this activity with a couple of poems I let the students take over and they began to run the class - picking out poems, reading them, and marking on the Smartboard the key words for interpretation and understanding.

We spent two days using the Smartboard for this activity. Before the second day began I asked if they enjoyed the lesson from the previous day. The answer was that they still didn't like poetry that much but they enjoyed using the Smartboard and were glad to do it again.

My own observations were used to note the level of excitement in working with poetry in this situation. I had more students buying into the lesson and actively getting involved in our poetry exploration, something which is hard to measure objectively. Anecdotally, I noted that the students were actively volunteering to get up in front of the class, to read, and to answer questions. The higher energy level translate into better retention and more meaningful learning experiences.

I deemed the experiment a success. The students were excited about the class and didn't mind the challenge of the lesson (interpreting poetry is a high level thinking skill), if they were working with technology. They were patient with the technology and

supportive as we learned together how to make some of the finer aspects of Smartboard use work for us. I discovered that the Smartboard makes for a great tool for interactive lessons.

Using a Smartboard to teach a lesson on poetry interpretation did increase student participation. They were more active. More attentive, and more focused.

Ken Whytock

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## **Action Research – Smartboard Software & Its Effectiveness in my Classroom**

### **Question 1: What am I trying to improve?**

How can students understand the concepts of Euphony and Cacophony better?

### **Question 2: Can the Smartboard help improve what I am trying to improve?**

The outline of the lesson is as follows:

- Review the terms cacophony and euphony, which were taught in an earlier lesson.
- Give students a hard copy of the first poem.
- Have students listen to the first poem, “When You are Old.” The first time through have students just listen. The second time through, have students highlight phrases in the poem that use euphony. The third time through, have students think about the effect of the euphony in the poem as a whole.
- Discuss together and make notes using the Smartboard software.
- Have students listen to the second poem, “Dulce Et Decorum Est.” The first time through have students just listen. The second time through, have students highlight phrases in the poem that use cacophony. The third time through, have students think about the effect of the cacophony in the poem as a whole.
- Discuss together and make notes using the Smartboard software.

Smartboards will help students learn these poetic devices by allowing students to hear a professional actor read the poems “When You Are Old,” by W.B. Yeats, and “Dulce Et Decorum Est,” by Wilfred Owen. Students will be able to hear these poetic devices through the Smartboard software gallery programs. Since these are terms that use sounds, this will be particularly effective for students.

In addition, the Smartboard will allow the teacher to make real-time notes on the poems themselves. The students can follow along as we analyze and discuss real examples from the poems themselves. This is a less clumsy way of taking notes – the students can follow along more easily and take notes as the teacher does.

**Question 3: What data will I collect to enable me to judge the Smartboard's influence as I answer my question?**

During the lesson, I could see the Smartboard making a difference. The students were engaged in the activity, listened intently when the poem was being read, and they took effective notes both when this was done individually and when it was done as a group.

The unit test on Poetry will be an important factor in judging the effectiveness of this activity. On the test, the students will be asked to identify examples of the various poetic devices that they learned in class and to explain the effectiveness of these examples. I suspect cacophony and euphony will be devices that they will be able to easily identify.

**Question 4: What did I discover?**

In the "Essentials for Educators" section, under "Poetry," I discovered the various poetry lessons that have an auditory component as well. This is a wonderful resource for all grades and levels depending on the complexity of the poem. Students benefit greatly from auditory material in general. Importantly, hearing these poems read aloud allows students to understand the meaning behind the words much more readily.

I discovered that by having an auditory component to a lesson, particularly a lesson on poetry, helps students be able to verbalize the effect of devices that use sound. They could hear the specific device and were able to explain its effect much more readily. I found this to be a more effective technique for students. Simply reading the poem and trying to "hear" the word in their heads is not as effective as using this resource.

I also discovered that students enjoyed having me take notes using the Smartboard software. While I gave them the opportunity to highlight and make notes on their own, they benefited greatly from taking notes as I did. The Smartboard enables notes to be made that are clearer, larger, and easier to read than simply using an overhead and marker. One student expressed the wish that we could always use Smartboards when making notes.

Finally, I discovered that the Smartboard helped me understand the poems in greater detail. The resource also included a background of the poem. This was especially helpful in explaining the background of the poem to the students. For example, the poem "Dulce et Decorum Est" was written during World War One and Wilfred Owen was a soldier during the war. Having this information readily at hand made my job as a teacher much easier.

**Question 5: What is my conclusion?**

Overall, I did feel that the Smartboard improved my lesson on euphony, cacophony, and alliteration. Students were engaged in the lesson, interested in the poem, and ultimately understood these terms in better depth.

## **Smartboard – Action Research Report**

Leigh-Anne Lowes & Peter Bolton (with input from Trudy Schulz)

We are living in an era that has many technological options but still in need of learning many of the things that have been taught for centuries. This is especially true with ELL students, who need to have their foundations established while also ensuring that they are up-to-speed with the way things are in North America (if they are not already ahead of us). Curriculum requirements in Math, for example, include the use of dynamic software, especially for graphing and geometry topics. In all ELL classes, vocabulary issues are frequent, and there is a need for us to have resources that are at our fingertips, to grant us the flexibility we need to show pictures or do spontaneous lessons that can be preserved. Often our interaction is designed to build off existing knowledge (sometimes from previous cultures and language structures) to infer about current constructs. We all want to do this more effectively.

The Smartboard technology is an excellent combination of the blackboard, overhead projectors and computers. With one Smartboard we can do lessons of any of these kinds. But the multiple page layouts allow even greater versatility as to which page we'll look at. We could even designate one or more pages for each student, and do comparative work. Group presentations can be much more dynamic; and changes to a display can actually be saved as separate files. Furthermore, the numerous complications involved in computer labs (if we can even get access to one) are eliminated by working together. It is simple enough for students to become the teachers, and for the group to stay on-task (rather than end up doing internet searches on their own computer).

Student involvement and enthusiasm is the most immediate measure we would expect in determining whether the Smartboard activities are worthwhile. Is there measurable comprehension? Is there constructive interaction, such as peer-coaching? Do the students want to use it again, and do they get more efficient each time?

We tested out the Smartboard in Geography and Math classes, with ELL students. The Geography classes did interactive presentations, which included calling up links to the internet, and marking up diagrams/pictures, and capturing those results in a file. The Math class did an introductory discovery lesson on graphing straight lines using a given point and slope. We found that the media-savvy students were not too bored with it, and the classes functioned with

a high level of interaction. Because they weren't all staring at separate computer screens, there was much more sharing of ideas, and a more efficient time of asking questions. As with almost any group activity, some students did lose interest; but that is not the fault of Smartboard.

One main problem we encountered was the inadvertent blocking of the image as people stood in front of the projection. This made it a bit harder for people to see some of what was going on. A second problem was the misalignment of the board that happened on occasion. For example, plotting points on a grid didn't always have enough precision if the board or projector got moved slightly. It was still useful, but more care would need to be exercised each time.

In conclusion, we would recommend the use of the Smartboard as a tool that should be in every classroom. It is healthier and cleaner than having chalk dust or whiteboard marker smells. It is easier to modify one's work than on a blackboard or overhead projection sheet—though users will need to learn how to do this. Fundamentally, the best reason for having the Smartboard is for the more beneficial interaction that is more thorough and flexible than any other form of technology in our classrooms. It also eliminates the hassles of trying to get and use computer labs. The spontaneity needed in the ELL classes means that the Smartboard should be in every room. They are too heavy and expensive to be trying to lug around; so there should be a commitment to getting them into as many rooms as possible. And it would also be best if they were the kind that project from behind, so that the interaction can be without any projection blockage.

We were quite pleased with the experience, and the students gave very positive feedback. Yes, we could continue to do without it; but we'd rather not.

## Smartboard Training Action Research

### **Question 1: What am I trying to improve?**

I aim to improve my use of technology in the classroom by learning more about the Smartboard so that I can incorporate it into my lesson plans. Primarily, I am hoping to engage students who have a hard time focusing on textbook work and lecture style lessons. I believe that using the Smartboard will help to peak students interest in the course material by making the lesson more entertaining and interactive. In particular, I would like to use the Smartboard to teach the topic of nutrients. Generally speaking, students do not find this topic as interesting as many others and are therefore, not as motivated to pay attention. I also hope that the Smartboard will help students practice inference skills by encouraging them to make connections between the nutrients, which foods they are found in, and how eating the right foods can have long-term health benefits and reduce the risk of future illnesses and diseases. I have already taught an introductory lesson about nutrients and would like to use the smartboard to review the information.

### **Question 2: Can the Smartboard help improve what I am trying to improve?**

I intend to use the Smartboard in a variety of ways. First, the topic that I am choosing to cover is nutrients. I would like to use the Smartboard to create a lesson that is both interactive and uses a variety of different delivery methods. Students will be expected to look at images presented on the smartboard and guess the nutrients that they may provide. Students can interact by coming up to the board and writing their idea next to the image. Then the answers will be revealed and students can write them into their notes. Students can then pick from a variety of images presented on the smartboard to determine other foods that may be valuable sources of each of the nutrients. Next, I would like to introduce the functions of each nutrient. This can be done using the video that has already been created on the smartboard. It is easy to access since it can be incorporated right into the lesson. Students will watch the video to learn the nutrient functions. There is a quiz that has been developed which I would use following the video. Finally, the smartboard could be used to help students interact with the material by having each student generate their own quiz question. They can then write it on the smartboard and have other members of the class suggest an answer. Because the student generated questions would be unique, I would capture them on the smartboard and save them. Then they could be incorporated into the unit test.

**Question 3: What data will I collect to enable me to judge the Smartboard's influence as I answer my question?** I would use a student questionnaire to conduct my research. I would generate several questions that would help me determine whether or not I achieved my goals with the Smartboard. Students would be given the questionnaire immediately following the lesson using the smartboard. They would be given ten minutes at the end of class to complete it. They have already had a lesson on nutrients and will be able to make comparisons to the

smartboard lesson. Also, I would ensure that students are aware that their answers are anonymous (no names on papers) to hopefully get truthful answers.

Questions I would include on my questionnaire:

- 1) What differences did you notice during the lesson using the smartboard? What similarities were there to regular lessons?
- 2) What did you like about the use of the Smartboard during the lesson? What didn't you like?
- 3) Were you more interested in the lesson because of the Smartboard? Why or why not?
- 4) In what other ways do you think the Smartboard could be used to make the lesson more fun?
- 5) Did you feel like you were more involved in the lesson? Why or why not?
- 6) Which did you prefer, the first lesson on nutrients or the Smartboard lesson? Explain your choice.

**Question 4: What did I discover?** Unfortunately, I was unable to complete my research. I had planned to use the Smartboard to review the nutrients prior to the next unit test. However, I was sick on my scheduled day. I was actually absent due to illness for seven days during which I had planned to complete the lesson. I intend to pursue this investigation in the fall when I teach the grade nine Food and Nutrition course again. However, I did make some important personal discoveries as a result of my training. There is so much that can be done to enhance lessons using a Smartboard. I thoroughly enjoyed the training and I can see how students would find it much more interesting. There are so many different ways that it can be used to get students more involved. I also intend to expand my use of the Smartboard and start generating more lessons that include its use. For example, the topic of body image could be quite effectively covered using the smartboard to illustrate body types, advertising influences, healthy eating etc.

**Question 5: What is my conclusion?** Although I was unable to complete my research at this time, I can certainly say that I have discovered many uses for the Smartboard in the classroom. Despite not being actually able to try out my lesson with students, I know that the Smartboard lesson is more interactive based on the capabilities of the Smartboard itself. The regular blackboard can't play movies and doesn't allow students to come up and select food items from a collection of images. In that respect, I can conclude that the Smartboard certainly has advantages. It also attracts students with its colour and ability to produce moving images.

Susanna Colvin

iChad Newsome, Galt Collegiate, Geography

Question 1 - We are really looking to improve two specific aspects in the classroom with the Smartboard. First, we are looking to make mapping skills more effective; and secondly, we want to enhance the students' presentation skills.

Question 2 - We are using the Smartboard to develop mapping skills by using the map of Canada as part of the geography database. Students are able to build the Canada map using the applicable tools, and then practice labeling features of provinces and territories. We have given them some practice time in small groups to do this. Secondly, we have allowed the students to develop presentations and use the board as a tool to enhance their delivery.

Question 3 - The results of the mapping test seemed to indicate a higher proficiency of map test scores. Student feedback also indicated that they enjoyed working with the board while practicing mapping skills or delivering presentations.

Question 4 - I discovered that the students were definitely more focused when they were able to use the board. The board allowed students to practice individually or collaboratively as a group. I found that during presentations students were a little more engaged in watching the presentations. I also found that the students were keen to use the Smartboard and took more ownership of trying to incorporate it into their presentation.

Question 5 - I found the Smartboard to be a relevant classroom tool. The students were engaged and excited to use the technology, even if it was just watching me use it. For example, when we talk about current events, I pop on Google Earth and rotate the globe and zoom into the area we are talking about. Any tool which both engages and allows student achievement and success rates go up is good by me.

## Smartboard Feedback

We used the Smartboard because we wanted to try a different approach to teaching a grammar lesson in an ESL classroom. The goal was to introduce and reinforce a particular grammar point. We used the first site to teach the lesson. From there, we went to a number of other sites providing interactive exercises to reinforce the grammar point that had just been taught. The students had the opportunity to do large-group multiple choice quizzes and to write answers on a crossword puzzle.

As a classroom teacher, it was useful to have such a large screen to focus everyone's attention on the same thing (as opposed to Lanschool). Having Internet access like this also saves a lot of lesson prep time, since charts, games, exercises etc. are readily available. This is a lesson that would normally have been done using a COW, but the advantages of the Smartboard were the size of the screen and the fact that students were more physically involved.

We surveyed the students the following day to ask them for honest feedback on the Smartboard as a learning tool, explaining that the school was considering buying them. They said that they enjoyed the lesson, but some students mentioned that it wasn't that novel because they had used it several times in other classes. A number of students were frustrated with the shadow cast on the screen, the difficulty they had in writing clearly, and the necessity to place the eraser back on the ledge before the pen could activate. One student mentioned that she found the overhead much easier and faster when it came to writing clearly for the group. As teachers, we had the same reactions. Would we use it again? For a full-class Internet lesson or one where the whole group is involved in an interactive online activity, it's a more useful tool than the COW because of the size of the screen and the ease of Internet navigation. For simpler lessons, the blackboard and overhead etc. are still probably more efficient tools.

It was certainly fun to use. We wonder, though, if it might be a good idea to wait until the technology improves a bit before investing a large amount of money in these. By the way, you can apparently make these yourself for very little money. This might even be a fun activity for technology students! Check out the following site:

<http://johnnylee.net/projects/wii/>

