



:: monthly news from The Bay School of San Francisco - March 2009

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Letter from Head of School

March 11, 2009

Dear Friends,

March came in like a lion, as the old song says.

The WASC (Western Association of Schools and Colleges) team's arrival and departure was clearly one of the highlights, leaving us in a glow in several ways:

1. The self-study document which was put together with great consideration and care over a twelve-month period revealed a strong, well-organized, innovative and rigorous school. Reading it from beginning to end in advance of the team's arrival, I was more than gratified at what has been begun, accomplished and refined in our brief history.
2. The team consisted of four able, thoughtful and articulate professionals whose questions were acute and whose insights were valuable. It is a pleasure to add them to the list of wonderful friends in the profession who have generously helped us from the beginning. As they sat with us for their third morning meeting, it was as if they had been on the faculty all along.
3. Furthermore, they got it. They had internalized the mission and philosophy. They recognized of course the excellence of the teaching and the stretching nature of the program. In their report and verbally, they spoke highly of all these things. And equally, they understood and appreciated what we are doing for the "whole child"—don't let any students know we used the term "child"—that the atmosphere of respect which grows from the daily morning meeting through interactions all day are creating an environment in which it is safe and joyful to grow.
4. Finally, in spite of probing to the best of their ability, they were unable to get a negative comment from either the student or the parent groups with which they met. Remarkable!

Their report, tweaks we will make at their suggestion to our action plan, and their recommendations for length of accreditation are in the hands of the WASC commissioners. We should hear back in April or May.

This experience, coupled with the strong admissions numbers and overwhelmingly positive comments from parents from whom I am seeking major support, underlines the solidity of the place that the Bay School has made for itself in its own community and in the community at large. I cannot help but be extremely confident in our long term future as a strong and useful institution.

All best wishes,

Fr. Malcolm



Head of School,
Malcolm Manson

The Bay School Community

The Bay School Difference

I was recently asked a compelling question by the parent of a student who has applied to attend the Bay School. (This parent is also an old and good friend.)

"What difference will the Bay School make in my kid's life?"

This question is what every parent wants to ask of a school, of course. And it is a question that any school aspiring to



Dennis Hartzell
Asst. Head of School

greatness needs to answer promptly and clearly.

At the moment of being asked, I thought of reeling off for my friend the foundational statements of the Bay School's mission and philosophy. After all, those statements are the basis of all we've done and the guide to all we do in this building every single day. But this particular friend of mine is a mechanical engineer, and I suspected that he was looking for something other than a mission statement. He wanted to know how his kid was going to be different upon graduation from the Bay School.

And so I gave to him what I have come to believe are three distinguishing outcomes that result from four years at the Bay School.

- 1. Our kids become problem-solvers.**
- 2. Our kids become knowledge-managers.**
- 3. Our kids become life-long learners.**



Let's look at each

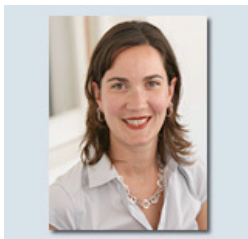
1. Our world is in urgent need of individuals who are comfortable and capable in the presence of complexity and ambiguity. Many of the problems we confront as citizens and as human beings are challenging, messy, full of difficult choices and uncertain outcomes. Day after day, in class after class at the Bay School, students work to develop the critical thinking skills that are essential to approaching problems of Gordian proportion. Students quickly learn that while it may be acceptable (or even appropriate, at times) not to arrive at a single or simple solution to a problem, they also learn that it is never acceptable to abandon a problem because it is daunting or multi-dimensional. The analytical, objective, inquiring approach that drives the application of the scientific method in our Biology, Physics, and Chemistry courses has its equivalent in courses throughout our curriculum. Freshmen students in Writing Workshop grapple with possible solutions to the Israeli-Palestinian conflict; Math students pursue understanding and competence through problem sets and investigations that place a premium on process of thought; Humanities students take responsibility for protecting the interests of an individual nation-state while jostling with opposing interests in the Africa Project; Shakespeare students learn to unlock, often word by word, the puzzle of a sonnet. These tasks all develop a kind of cognitive tool kit and a certain predisposition of mind, a willingness to be accountable in the presence of problems.

2. We are all awash in information. But we may find ourselves short of knowledge, of information that has been processed in the service of greater understanding. The simple act of "Googling," a verb that I think Shakespeare would have loved, produces cataracts of information but does nothing to qualify the relevance or accuracy or provenance of that information. We are long past the day when the practitioner of even the narrowest sub-specialty can expect to command all of the relevant information in a field. And since solving problems is best done from an informed posture, and because we really care about developing problem-solvers, what should we do? At the Bay School, we focus on two key responses to this challenge. The first is to develop in all students both the confidence and the capability to find what they need to know when they need to know it. Again, this is a matter of process, of habits of mind, and of sheer perseverance. The second key is to apply the analytical, critical thinking skills of the problem-solver when confronted with an overabundance of information. What is relevant to my question? How do I judge the credibility of the data? How do I make (or find) connections that illuminate new approaches or perspectives? In other words, how do I transform information into knowledge and manage the latter in pursuit of my objectives? If you are a Bay School student, you become a knowledge-manager through repeated exposure to an alert and vigilant process of inquiry.

3. Our problems are unlikely to diminish in either number or complexity. Indeed, we are certain to face challenges whose names and dimensions we cannot know at this moment. And the flow of information in and around our lives will remain torrential. What our students know and do today may or may not be adequate ten years from now, much less thirty years from now. Managing knowledge in pursuit of workable solutions to urgent problems will demand a life-long, self-renewing commitment to learning. An individual student's experience over four years at the Bay School leads inevitably to such a commitment...and not least because our kids work and change and grow in the watchful, mindful presence of faculty members who are themselves deeply, and joyously, committed to a lifetime of learning.

And just so you know, I also sent my friend this link: <http://www.bayschoolsf.org/about-us/mission-statement.aspx>

Academics



Krissa Lebacqz
Director of Senior Projects and
Field-based Learning

The 2009 Senior Project Program

The Senior Projects and Field-based Learning Program is the capstone to the Bay School's academic curriculum. It offers all seniors the opportunity to explore an area of personal interest in depth and in the process gain the experience of applying their knowledge in a real world environment. Through their projects they gain a hands-on, in-depth understanding of their subject while also learning important management and organizational skills that they will carry with them into their adult lives. The Senior Project Program promotes great personal growth as students struggle to solve problems and work independently. Inevitably, as part of the process, they encounter setbacks and challenges, and it is through these stumbles that very often the most profound learning takes place.

Senior projects require a minimum of sixty-five hours of work representing a full credit course during two trimesters and are a requirement for graduation. Each student begins his/her project by drafting a proposal that outlines the objective and substance of the planned study. The next steps then involve writing a resume and identifying an expert in their field who is asked to serve as their project mentor. Because students reflect on their personal values, skills and interests in designing their projects, the range of topics changes from year to year. Class of 2009 projects include a wide variety of topics from making electronic music, nutrition science, fashion design, architecture, fundraising and marketing to theoretical math, neuroscience, engineering, and Japanese history. This year many projects are focused on varied forms of the arts, both visual and performing. Graduating seniors will formally present the results of their work at the Senior Projects Exhibition to be held at the Bay School on Thursday, May 28, from 5:00 to 7:30 PM. The entire school community will be on hand to learn about and honor their hard work.

Ariana Breall - A Growing Artist

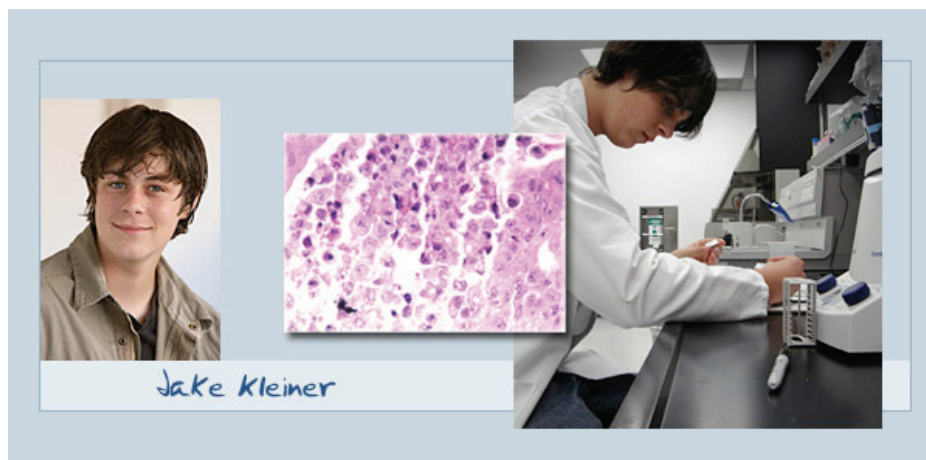
For my senior project I chose to create a comprehensive art portfolio that I could send to design schools. I had attended Rhode Island School of Design during the summer of 2007, and from that experience knew that I wanted to pursue a career in fashion design. I saw the Senior Project as a perfect opportunity to take an active step in preparing myself for my future career.



During the summer of 2008 I interned at ArtSeed, located in San Francisco, for my field requirement. ArtSeed is a non-profit organization that brings local Bay Area artists and youth together. A large portion of my time at ArtSeed was spent helping the executive director prepare for a week long Summer Intensive, where artists taught youth art classes in mixed media. During the Intensive, I worked as a teaching assistant in the art classes. Also, during the summer, I took multiple art classes at Sharon Art Studio and the San Francisco Art Institute in figure drawing, watercolor, and meditation drawing. During this school year I applied what I learned in these classes to independent work for my own portfolio. This has been a very meaningful experience for me, as I have been able to further develop as an artist and create my own artistic style.

Jake Kleiner - Exploring the Field of Biotechnology

My senior project involves the field of Biotechnology. My general goal is to get a good feel for what it is like to work and study in this important field, and to have an authentic experience in a Biotechnology company actually doing work in the laboratory. I was able to make contacts and arrange to work at a company called MacroGenics Inc. in South San Francisco where my mentor, Dr. Jennie Mather, is a senior vice president of stem cell research.



Jake Kleiner

The general theme of my project is researching how a complete tumor develops from cancer stem cells by learning about the cell biology of cancer stem cell differentiation.

Briefly my work involves:

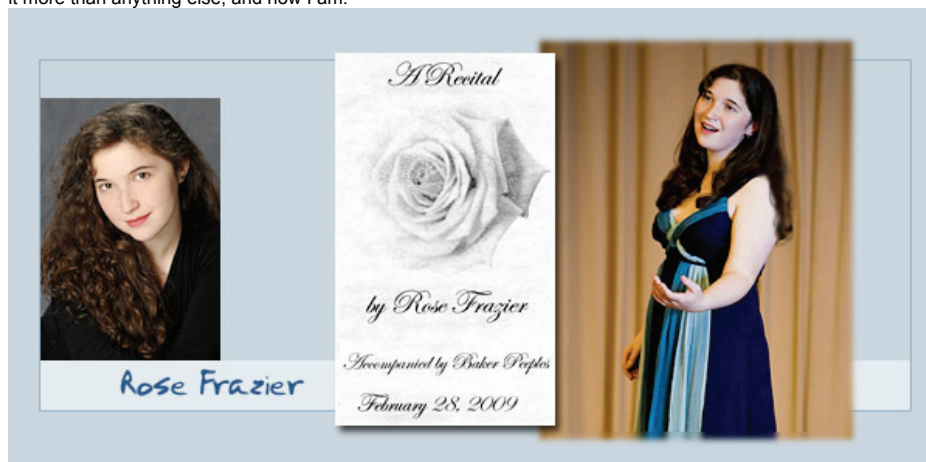
- * Examining purified cultured cancer stem cells
- * Making tumors in animals
- * Analyzing using histochemistry (special markers) to compare animal tumors to human tumors.

I am presently in the process of preparing cells grown in the lab and cells taken from a rat tumor. I have been somewhat surprised by the complex and involved process of preparing these cells. It is nonetheless interesting, and I am excited about the process of staining these cells and making the comparisons.

It is interesting to see how science and business can be combined to do such meaningful work as discovering treatments for cancer. I have been able to participate in a very small yet enlightening slice of this type of work.

Rose Frazier - A Passion for Singing

When I first heard that I was to have the opportunity to design my own senior project, there was only one thought in my mind: singing. My project has two parts: putting together my audition CDs for college and producing my own recital. I needed to create recordings because I want to major in music and so my college admissions process includes a series of auditions, some in person and some via CD. I accomplished the recording during the first trimester of this year and then decided upon a recital as the second half of my project. I've never had my own recital before, and it felt like a good rite of passage as I prepare to graduate from high school and move on to college. Having four eighty-minute periods during my class schedule each week for twenty-four weeks to devote to singing is a dream come true. Through this process I wanted to find out if I could really be happy making such a commitment to singing every day. I am very aware of the dangers and demands of pursuing an artistic career path. I can only aim for a singing career if I am one-hundred percent sure that I want it more than anything else; and now I am.



Rose Frazier

The most exciting and challenging aspect of my senior project has definitely been putting together my recital. The process has involved everything from finding and renting the space to printing the programs (and obviously, preparing the repertoire) and it was all my responsibility. I love performing, but the thought of a room full of people sitting in front of me for forty-five minutes made me a little nervous. That's part of the life of a singer, though. All in all, it was a great experience. I had a slight setback when I contracted mononucleosis during winter break. The virus infected my left cochlea, and there were a few panicked days when the doctors thought I might suffer from permanent hearing loss and constant ringing in my ears. While to many people this might not make much of a difference, to a singer it would be disastrous. Fortunately, a five-day course of Prednisone later, the ear was fine and (knock on wood) continues to be so. The constant exhaustion and sore throat set my progress back a bit, and I had to move my recital to later in February. All's well that ends well, however, and with the help and support of innumerable people, I pulled it off. I am happy to feel that I have accomplished what I set out to achieve and that I have made good use of my senior project.

Listen to [Rose Frazier sing *Le Violette*](#) (MP3 file) by Alessandro Scarlatti from his opera *Pierro e Demetrio*.

Note: Rose has performed with Lamplighters Music Theater since 2005 appearing in *The Pirates of Penzance*, *The Merry Widow*, *Carousel*, and other musicals. She made her debut with the San Francisco Opera in fall 2008 creating the role of Fia in the world premiere production of *The Bonesetter's Daughter*. She is currently playing the role of Orestes in the Pocket Opera production of *La Belle Helene* to be performed on Sunday, March 15th at the Napa Valley Opera House.

Blake Lawrence - Building and Monitoring Water Purification Systems In Honduras

For the past three summers I have been working as a volunteer translator at a medical clinic in Atima, Honduras, a village located in the northeast coffee growing region. The clinic is operated by a group of doctors from Baltimore, MD. I have been doing this work because of my interest in and concern about the growing number of water-borne illnesses that the Honduran people have been suffering from. When I learned that the doctors were going to implement a water purification program, I decided to investigate what I could do to help. Disease caused by dirty water is the leading cause of death and illness in the third world. My involvement in the Honduran program has become my senior project.

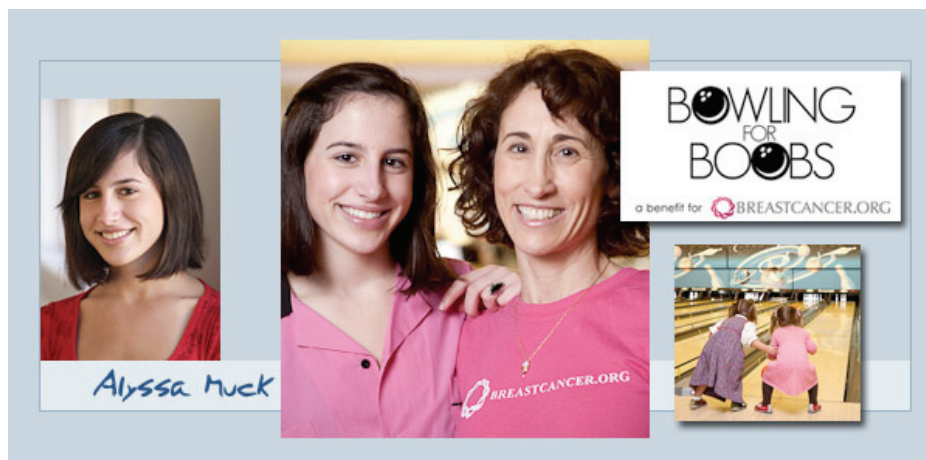


During the summer of 2008 I began by spending one week interviewing one hundred families about the water filtration systems they had been using for the past year. I had helped to build the donated systems during the previous summer and I wanted to find out if they were working. Each system consisted of two five-gallon buckets, two filters, a top and a tap. Each filter was expected to be able to filter and purify about 20,000 gallons of water in its lifetime. As part of my senior project I both tabulated the results of my surveys and I investigated the types of bacteria and parasites that existed in the un-filtered water so I was able to understand the source of the illnesses. I found out that the untreated water in these Honduran villages contained both bacteria and parasites.

In late February 2009, I returned to Atima again in order to interview additional families and to do simple on-site experiments to determine what the levels of the e-coli count were in the water. I used coli plate test kits that would provide quantitative results of bacterial levels. I found out that every home has e-coli or coli form colonies, or both, in its water system. I have also discovered that the water filtration system does effectively remove all e-coli from the water. From my qualitative research interviews I have confirmed that there has been a reduction in both the number of people taken ill and the number of times they have been sick. Overall, their health has improved! Through my senior project I am experiencing first-hand that the filtration project is bringing great benefit to the poorest families of rural Honduras. My senior project has been a very worthwhile endeavor for me.

Alyssa Muck - Raising Awareness and Funding for Breast Cancer

My senior project was to plan a fundraiser for www.breastcancer.org, an important nonprofit breast cancer educational resource. My fundraiser was called 'Bowling for Boobs' and was a mother-daughter bowling event held at the Presidio Bowl on February 22, 2009. I wanted to have a fun event to raise money, but I also wanted to educate women about the risks of breast cancer. Along with the goodie bags that were given out to each attendee, I included information about breast cancer and how important it is to do routine breast cancer checks.



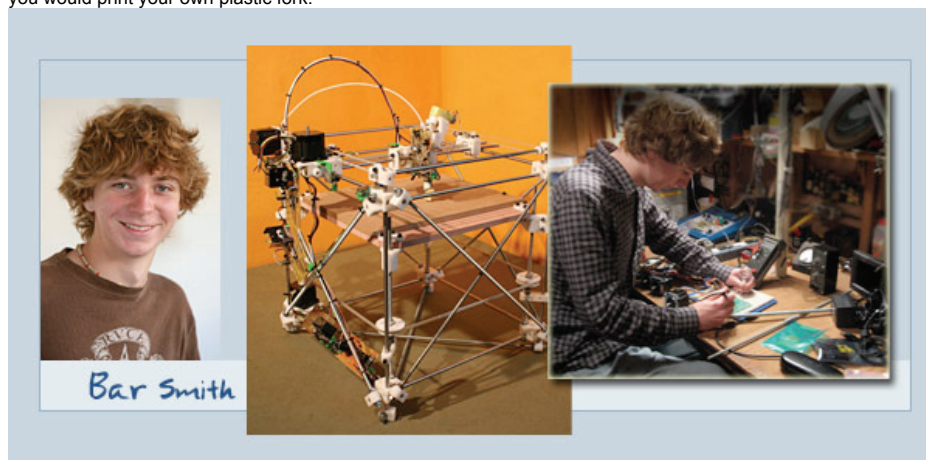
I chose this project because my mother is a breast cancer survivor, and since she was diagnosed I've been increasingly interested in the disease. The breast cancer rate in the Bay Area is one of the highest in the country and I wanted to increase awareness of this fact.

The most exciting aspect of my senior project was the event itself. In planning this event, I had to write letters to possible donors and solicit food donations from local bakeries. I learned how to create and abide by a budget (which meant forgoing some aspects of the event that I had originally wanted to include due to price). The biggest thing I learned from this experience was how to effectively manage my time. I needed to use all of my senior project periods in an effective manner in order for the event to run smoothly.

'Bowling for Boobs' was a great success! Nearly seventy mothers and daughters attended and we raised almost \$5,000. The most meaningful aspect of this process was working with my mother to plan the event. Many people don't realize how prevalent breast cancer is in our society and I was glad to work with my mother to help them learn more about the disease that has had such a large impact on my life.

Bar Smith - Printing in the 3rd Dimension

For my senior project I am building a 3D printer and researching the effects of distributed manufacturing. Several companies have recently come out with rapid prototyping machines which allow product designers to create an object on a computer and then print it in 3D as a proof of concept. Because rapid prototyping machines are expensive, large, and difficult to use, most are owned by large companies. A professor at Berkeley is trying to change that by developing a cheap mass producible printer which could be used in everyone's home. The goal of the project is to create printers which will allow people to print anything from silverware to a cell phone right in their homes. He coined the term 'distributed manufacturing' to describe an economy where manufacturing is not centralized around a factory. If you go out and buy a plastic fork today, you know it came from a massive factory, and that that factory was probably in a developing country. All the plastic forks come from a single source far away from where they are used. In a distributed manufacturing economy you would print your own plastic fork.



This is better for two reasons, first it addresses the massive U.S. trade deficit, and second, it is environmentally friendly. The U.S. had a trade deficit of forty billion in December of 2008 (the last month for which data is available) alone, a deficit primarily caused by the importation of manufactured goods. Distributed manufacturing is environmentally friendly because oftentimes moving goods from the factory to the consumer uses more energy and produces more waste than making the product itself. By distributing manufacturing you can remove the environmental costs of shipping and packaging.

My printer will only be able to print plastic objects up to 32cm³ in a compostable corn based thermoplastic, but the idea is much larger.

Sources:
<http://www.bea.gov/newsreleases/international/trade/tradnewsrelease.htm>