**PolarTREC Needs Assessment 2014**

**(For 2011-2012 Needs Assessment see page 3)**

**Alex Eilers – PolarTREC Teacher 2014**

**Personal Vision**

As an active participant of the museums redesign planning team, I am keenly aware that educators in today’s museums are playing an increasingly important role in addressing the learning needs of the museum’s audiences – especially with regards to its school audiences. It is my vision that my PolarTREC professional development experience will help to develop this role in the following specific ways:

* Build and develop strong relationships with area educators – this mutual and trusted school-based relationship provides a core audience and a conduit to the larger community. Participating in PolarTREC is an outstanding example of developing this strong relationship and allows this experience to be shared with a broad and diverse audience. Specific ways this will occur are as follows:
  + Following the blog and participating in the challenges posted
  + School programs – such as ‘Fly a Flag’, ‘Antarctic Postcards’ and ‘Get Fit’ programs.
  + Polar Connect events
  + Communicating via web, Skype
  + and satellite phone
* Listen to area educators in an effort to assess the needs of teachers and students – specifically in terms of curriculum alignment, and offering area schools the opportunity to collaborating with scientists.
* Continue to develop and provide a wide range of successful school and teacher programs – with an emphasis on the following
  + Aligning in-house and outreach programming on specific GLE’s (Grade Level Expectations)
    - Lab program during the 2014-15 school year will focus on Animal adaptations.
    - Two outreach kits – ‘Extreme Cold Weather gear’ and ‘The Weddell Seal’
  + A special focus during the school year will be on underserved populations and female audiences.

**Obstacles**

As with any ‘new’ project, there are obstacles. Some of the obstacles I anticipate addressing are:

* Getting the word out.
* Time – there never seems to be enough time!
* Communicating directly with the various school districts, schools, and teachers.
* The limited time teachers may have or are willing to devote to ‘teaching science’ - many of our schools are focusing primarily on reading and math.

**Student Needs**

* Curriculum specific
  + Seal anatomy and physiology
  + Animal adaption – physical and behavioral
  + Predator/Prey
  + Geology – Ice, Glaciers
  + Earth and Space Science – the Sun and its motion in the sky
  + Weather – Wind chill, katabatic winds
  + Polar Regions
  + Explorers and the importance of exploration
* Personally
  + Expose students to a world – beyond Memphis (or their hometown).
  + Excite and inspire students to learn about science
  + Personalize the ‘scientist’ for students

**Personal wishes**

Changes I would like to make to my teaching methods

In my personal quest for self-improvement, I would like to:

* Build/develop a stronger relationship with area educators and server as a ‘Polar’ resource for these teachers.
* Create opportunities where the public can reconnect beyond the museum visit. For example, having some sort of interactive/participatory event which enables our audiences to further their learning.
* Help to disseminate this current scientific research by becoming more of a liaison between the research community and the general public.

Concepts that I would like to teach better

* Increase my content knowledge in the following areas
  + Polar Regions in general and the specific science that is currently being studied.
  + Antarctica Biodiversity
  + Climate change
  + Basic anatomy and physiology – not only with regards to seals, but how it relates or correlates to humans
  + Antarctic Exploration, Explorers and History of Antarctica

By continuing to focus on improving my teaching methods and my content knowledge, I will be better able to create more effective, curriculum based school programs. These programs would be compelling, interactive, object-based and address multiple learning styles. They would also focus on or directly relate to current scientific research, technology and global relevant issues.

**Learning expectations**

Learning is a life-long adventure – we should never stop! I imaging this experience will teach me more than I could ever anticipate – but with that said, there are several specific things I hope to learn from my adventure:

* Learn how to become better liaison to school students and the general public in terms of identifying the needs and wishes of the researchers.
* I’m quickly learning that the Polar community runs wide and deep! There’s a lot to learn from you guys! –Researches, PolarTREC alumni, current PolarTREC cohort and – I’m sure - future PolarTREC’ers. I’m thrilled to be a part of this community!
* Although I have been researching ‘my project’ – Weddell Seals, I am very interested in finding out about the all other research project currently going on in Antarctica. I imaging they are wide and varied.

**Equity and expectations related to ethnicity, gender, socioeconomic, and differently –abled students.**

**Gender**

I am very lucky to work on PolarTREC project with a majority female team. One of my personal goals is to increase the ‘excitement for science’ with young girls. Far too few girls pursue careers in a science related field! My hope is to inspire and motivate these bright, talented young women into choosing such careers. This fall, I plan to partner with Girls Inc. and local Girl Scouts troops to promote my expedition.

**Socioeconomic**

Experiencing education - beyond the four walls of a classroom - is vitally important for all children! Unfortunately there are many students who cannot afford such experiences. This is where I and the PolarTREC program can play an important role.

When visiting schools to talk about my upcoming journey, I have already seen the excitement on students faces – especially when I personally invite them to ‘come to Antarctica with me’ by following my journey and taking an active role in my polar challenges.

It is my hope that by providing students with these experiences – from simple to grand – exposes them to the world, opens their eyes scientific issues and inspires then to take part.

**PolarTREC Needs Assessment**

**Alex Eilers – PolarTREC Teacher 2011-12**

**Personal Vision**

As an active participant of the museums redesign planning team, I am keenly aware that educators in today’s museums are playing an increasingly important role in addressing the learning needs of the museum’s audiences – especially with regards to its school audiences. It is my vision that my PolarTREC professional development experience will help to develop this role in the following specific ways:

* Build and develop strong relationships with area educators – this mutual and trusted school-based relationship provides a core audience and a conduit to the larger community. Participating in PolarTREC is an outstanding example of developing this strong relationship and allows this experience to be shared with a broad and diverse audience. Specific ways this will occur are as follows:
  + Following the blog and participating in the polar points challenge
  + School programs – such as ‘Take a Closer Look’ and ‘Antarctic Postcards’ programs.
  + Polar Connect events
  + Communicating via web, Skype
  + and satellite phone
* Listen to area educators in an effort to assess the needs of teachers and students – specifically in terms of curriculum alignment, and offering area schools the opportunity to collaborating with scientists.
* Continue to develop and provide a wide range of successful school and teacher programs – with an emphasis on the following
  + Life, science, Earth science, globally relevant issues such as climate change and being environmental stewards.
    - We will do this in a 9 part Home school series
  + Aligning in-house and outreach programming on specific GLE’s (Grade Level Expectations)
    - Lab programming during the 2011-12 school year will focus on Animal adaptation.
    - Two outreach kits – ‘Extreme Cold Weather gear’ and ‘The Weddell Seal’
  + Promoting science in general and scientific research to all students.
    - We plan to do this through a mini exhibit. Exhibit topics we hope to include:
      * Antarctica – the continent, places, fact, researchers
      * Antarctic timeline
      * Animals of the Antarctic and an Antarctic food chain
      * A Closer Look at the Weddell Seal
      * Extreme Cold Weather gear
  + A special focus during the 2011-12 school year will be on underserved populations and female audiences.

**Obstacles**

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**Equity and expectations related to ethnicity, gender, socioeconomic, and differently –abled students.**

**Gender**

I feel very lucky to have been selected to a PolarTREC project where two of the three PI’s are female. And, I was also pleasantly surprised to see that two of the three graduate students working on the Weddell Seal project were also female. One of my personal goals is to increase the ‘excitement for science’ with young girls. Far too few girls pursue careers in a science related field! My hope is to inspire and motivate these bright, talented young women into choosing such careers. This fall, I plan to partner with Girls Inc. and local Girl Scouts troops to promote my expedition.

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