

## Comment

### TRAINED TO INTERACT

## Explainers – New energy for the museum

*ABSTRACT: The Exploratorium explainer program is not only important to the young people involved, but is an integral part of the museum culture. This initiative that started to help the youth of our community has blossomed into a program that has been very helpful to the science centre. In fact, the institution would not be complete without the fresh energy of the explainers. They help the Exploratorium to continue to give the real pear to its public.*

### Sebastian Martin, Modesto Tamez

We at the Exploratorium sometimes use an interesting exercise to demonstrate one of our underlying principles. Knowledge is attained better by doing rather than memorizing words.

The exercise is simple but profound. You give a group of teachers a fresh pear. They make thorough observations, they look at it, they smell it, they taste it, they basically experience the pear. We then generate descriptive words of the experience – taste, texture, mass, *et cetera*. Now we take the pear away, and give the teachers a plastic pear (a model). At this point, very few new descriptives are generated. In fact, the old descriptives start going away. Taste is no longer possible, as with texture, and many of the descriptives of a real pear. The next step is, we take the plastic model away and give participants a photograph of the pear. It is now obvious that the descriptives are getting away from the real properties of the pear. In the next and final step we take away the photograph and give them just the word “pear”.

This exercise shows that the way to really learn about the pear is to eat the pear. This is a lovely metaphor for teaching science education. Whenever possible give the people the real pear.

The experience before the words – one of our mantras at the Exploratorium. By that time all participants are in agreement that a picture is nothing like the actual thing. At the Exploratorium, we don't give visitors a photograph (or other virtual representation) of the pear, we give visitors the real thing.

To continue with this metaphor, we give nutrition to the people by giving them the real pear. To be able to continuously provide the real experience to visitors, the Exploratorium cannot survive without new energy. Plants get energy from the sun, one of the main sources of energy at the Exploratorium comes from the explainers. They are the new refreshing cells in our organism.

Historically explainer programs have been designed for young people to provide their first chance of employment, to provide community, opportunity, inspiration, and the first interaction with adults as colleagues. These lists have largely been unidirectional. They have been designed to help the young person and have rarely acknowledged the multi-faceted contributions of explainers to add to the worth of the museum. Yes, explainers provide the service they are hired for, but there are many more benefits that may not be apparent.

Institutions age, but the Exploratorium has found an anti-aging elixir. The miracle of rejuvenation happens every year with the start of a new explainer program. The careful design of our explainer program is basis for the seamless and compact integration of the fresh cells in our organism. We start a new program every autumn and explainers typically stay for one to three years at the museum. This is more than a part time job, it's a relationship with the Exploratorium who's benefits last a lifetime. Many of the employees of the Exploratorium ranging from shop, educational, and management have come directly from our explainer program.

Almost 40 years of experience in the museum field have taught us that the best way to evoke enthusiasm in visitors is to be enthusiastic about exhibits ourselves. One of the largest sources of excitement and enthusiasm about what we are doing are our explainers.

An example of an Exploratorium event that is covered by the city-wide media is Pi-Day. This is a celebration of Pi on March 14<sup>th</sup> at 1:59 pm which exalts Pi as one of the great mathematical concepts. Pi-Day has been celebrated many years at the Exploratorium, this whimsical look at the importance of the number Pi is an example of the huge participation of the explainer group. On their own volition and time, the explainers were part of the creation of a Pi chain reaction (Rube Goldberg device) that played on the museum floor connecting our museum through the explainers to the general public. See their work at [http://www.exploratorium.edu/pie/gallery/pi\\_chain\\_reac/index.html](http://www.exploratorium.edu/pie/gallery/pi_chain_reac/index.html).

Another example of the explainers contributing to the institution is their work at external events such as the recent “Maker Faire”. The explainers played a major role at this extraordinary celebration of arts, crafts, engineering, and science projects. Find a photo gallery of this event at <http://www.exploratorium.edu/pie/gallery/makerfaire08/>.

In addition to enthusiasm, the explainers have an openness to new approaches in science education. As our institution always strives to be a leader in the field, we have developed a strong, always evolving online presence. It is the Exploratorium’s explainer group that brought the “Museum 2.0” movement to our institution. This idea of giving individual staff a chance to represent the museum and be heard by the public has been fully embraced by the explainers at the Exploratorium.

The explainer group created and populated their own blog “Exploratorium Explainers” and we are proud of this new asset to our online presences. This blog started one and a half years ago and has since then become a popular web log in the field. Individual explainers discuss their personal and work experiences, share their interests, document museum life, and bring in their very own view on the museum. The explainer blog is one of the platforms where explainer culture becomes tangible, a manifestation of the new energy that the explainers bring to the Exploratorium. Empowered and confident explainers explore, discuss, and document hands-on science on the explainer blog. They create a forum to connect with our own staff, the public and other museums worldwide, a window to the heart of the museum floor. Please see for yourself and read the latest from the Exploratorium explainers at <http://explainers.wordpress.com>.

As we have seen, the explainer program is not only important to the young people involved, but is an integral part of the museum culture. This initiative that started to help the youth of our community has blossomed into a program that has been very helpful to the Exploratorium. In fact, our institution would not be complete without the fresh energy of the explainers. They help us to continue to give the real pear to our public.

## Authors

Sebastian Martin studied physics at Potsdam University (Germany) and has a PhD in Geophysics. During his studies he discovered his love for informal science education and hands-on teaching. He took his first steps as an educator at Universum Science Center and Phaenomena Science Center in Europe. Sebastian now works as an exhibit developer at the explOratorium, San Francisco and as a teacher at UC Berkeley, CA. E-mail: [sebastianm@exploratorium.edu](mailto:sebastianm@exploratorium.edu).

Modesto Tamez has spent the last twenty five years in education; the first 18 years working in the classroom with levels K-12 in Spanish and English with an emphasis in teaching science. The last eight years he has been working with the Exploratorium in San Francisco and San Francisco State University, helping teachers integrate hands on science into their curriculum. Modesto was also director for an NSF supported program to help establish after school science programs through out the state of California. He is currently coordinating a mentor program, placing experienced teachers in middle school and high school classrooms to help first and second year science teachers. For the last four years, he has been teaching an elementary science methods course in a non traditional intern program at John Muir Elementary School run by San Francisco State University. E-mail: [modestot@exploratorium.edu](mailto:modestot@exploratorium.edu).