Virtual Science
Using 360° Videos to go Behind the Scenes with Scientists

In Summer 2016, the Museum of Life and Science shot 360° videos on a research cruise in Bermuda. Using the Ricoh Theta 360° camera and ThingLink software, we created virtual reality (VR) experiences where visitors travel through different scenes, interact with objects, and complete challenges.

Project Goals
• Effectively using 360° VR technology to aid educational experience in and out of the classroom
• Humanize scientists
• Disseminate scientific research

Challenges
• Integrate technology in a purposeful way (not just for technology’s sake)
• Find intuitive, easy to use technology and programs (hover vs. click on hotspots)
• Connect content with scientific work/community (scientific process)
• Reach a diverse audience who still finds technology useful and engaging
• How do you interact with kids while they are using the VR goggles? Should we try to or make sure it is a stand-alone activity?

Conclusions
• See benefits of immersive experiences combined with hands-on/interactive activities
• Use technology as a storytelling method to create context

Next Steps
• Create more videos with VR company
• Evaluation, Crowdsourced sticky notes questions

An educator from the Museum of Life and Science accompanied the Cassar Lab from Duke University’s Nicholas School of the Environment and other institutions on a two-week research cruise around the Atlantic Ocean. The educator took 360° pictures and videos with a Theta camera to document the daily life and responsibilities of the scientists and crew on a research cruise.

In this photo, a crew member is deploying the CTD which takes measurements of conductivity and temperature of the ocean’s water at varying depths. The CTD is deployed multiple times a day to attain many data points. Scientists then retrieve the water samples from the CTD to perform a variety of filtration tests to aid their research. The educator helped perform filtration tests such as TOC (Total Organic Carbon).

Using the 360° pictures and videos, the educator created Virtual Reality experiences for museum visitors. Participants can choose from a variety of challenges including “Spot the Scientist” which demonstrates what daily life is like on a research cruise for a scientist during work and leisure time. “Safety First!” is a safety scavenger hunt that highlights how crew members keep everyone safe and how daily routines change while living on a ship.

Educators developed hands-on, facilitator-led ocean science activities that complemented the 360° video experiences. Lab activities included topics such as, ocean acidification, phytoplankton and currents.

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See the Videos
Text SpotTheScientist to number to complete the “Spot the Scientist” challenge on your phone.
Text SafetyFirst to number receive a link to the “Safety First!” video.

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