



## **INSIDE: GENIAL SUMMIT SUMMARY**

PLUS: THE RISE OF FAKE NEWS, INFORMAL SCIENCE LEARNING &  
SOCIAL INCLUSION, AND MORE!

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# INFORMAL SCIENCE LEARNING AS A TOOL FOR SOCIAL INCLUSION

*By Heidrun Schulze and Lauren Souter*

As science communicators, we believe that informal science learning activities should be open to everyone. They should raise curiosity and interest about science and technology in society at large. But there is a growing notion within the science center and museum community that large groups of society do not participate in activities offered by our institutions (Dawson, 2014). Our audiences are not as diverse as we would like them to be, and we are exploring more and more the reasons for this and trying to tackle it.

The motivation to engage more with groups that usually do not visit a science exhibition or send their children to afternoon science workshops or summer camps, may be partly driven by the aim to raise visitor numbers. However, many science centers and museums also recognize that they have a specific role in providing access to sciences, arts, and culture for the increasingly diverse public and thus in contributing to social inclusion and cohesion.

This raises at least two questions: How can we specifically

address non-visitors and bring diverse audiences to our museums and science centers? And how can we ensure that these new visitors will then find our places inviting enough and the programs and activities meaningful for them?

In the following article, we will present two different examples of informal science learning projects, which are attempting to learn more about these diverse audiences in order to become inclusive places for engagement with science.

## ENGAGING UNDERREPRESENTED AUDIENCES WITH THE MEDICINE GALLERIES PROJECT AT THE SCIENCE MUSEUM, LONDON

This case study focuses on early steps taken to work with underrepresented audience groups as part of the Medicine Galleries project at the Science Museum in London. Set to open in 2019, the Medicine Galleries will be a suite of five object-rich gallery spaces spanning most of the first floor of the Science Museum. The galleries will explore the history

of Medicine and are being developed alongside a learning program, a digitization project, and an online offer.

The target audiences for the project are Independent Adults, Families with children aged 11+, and Key Stage three and four school groups (children aged 11 – 16). Within these three broad categories, the Museum team is also hoping to attract audience groups which are shown to be underrepresented through the Science Museum’s visitor profiling. This includes people from Lower Socio-Economic Backgrounds, Black and Minority Ethnic communities, and people with disabilities.

### Why Engage Underrepresented Audience Groups?

To understand more about working with underrepresented audience groups, the Science Museum team partnered with an organization called Renaisi. Renaisi is a London based social enterprise which has expertise in audience development and links to local community groups. In collaboration with the Museum team, Renaisi facilitated a cross-departmental workshop with staff from curatorial, education, marketing, and fundraising, exploring four key questions:

1. Why do you want to reduce barriers for those not attending?
2. How will you measure the success of this?
3. How can different departments work together?
4. What are the challenges?

By discussing these questions and listening to the perspectives of different departments, the Science Museum team was able to develop a shared aim for working with underrepresented audience groups. This aim is “to improve the diversity of visitors that feel the Science Museum is a place for them, with opportunities created by the new Medicine Galleries.”

### Who Should the Museum Team Work With?

Once the Museum team had decided why they wanted to

engage new audiences, they were able to start thinking about who to work with. Renaisi helped the team to think about this using the diagram in Figure 1.

Figure 1 places Science Museum visitors and non-visitors on a scale based on their likelihood to visit the Museum. It demonstrates the relationship between likelihood to visit and the type of engagement technique needed to encourage a visit, showing that some non-visiting groups will be easier to engage than others. If the Museum wanted to, for example, quickly increase the number of diverse groups visiting the museum, the Museum team would need focus on those who would be most easily influenced to visit, using engagement approaches that would reach large numbers of people, such as partnering with national brands.

As the Science Museum team’s ambition is to change how non-visitors feel about the Museum, rather than increase visitor numbers, a decision was made to work with those on the “potentially interested” to “no interest” end of the scale. This meant working with a smaller amount of people, building sustainable and meaningful relationships.

### Understanding More about Underrepresented Groups

Local partner organizations that have established connections within local communities, such as Renaisi in London, have helped the Science Museum team to reach community groups that have low interest in visiting the Science Museum and begin research and relationship building. Using the content and ideas for the Medicine Galleries, the Science Museum team has investigated how people who do not tend to use or engage with the Science Museum, view it, and experience it. This research was qualitative in focus and looked at themes and experiences, trying to understand how background, culture, and socio-economic circumstances shape and influence interactions.

The research was conducted over a period of two months and used various methods, including accompanied visits to the Science Museum with community groups who



Figure 1: Diagram placing Science Museum visitors and non-visitors on a scale based on their likelihood to visit the Museum.



*Figure 2: Focus Group taking place with a community group at the Museum. © The Board of Trustees of the Science Museum, London.*



*Figure 3: Community group discussing objects from the Medicine collection as part of a focus group at the Museum. © The Board of Trustees of the Science Museum, London.*

had not visited before, focus groups on site exploring the medicine collection, and focus groups off site to further explore barriers to engagement. The research highlighted three themes which affected how the community groups engaged with the Science Museum and the medicine collection:

### 1. Personal connections

People were able to relate more to objects which they had a personal connection to. Either familiar objects which they had personal experience with or through the prior knowledge of topics. People also engaged with unfamiliar objects by using their own frames of reference to find links to personal experience.

### 2. Science interest

People's interest in and enthusiasm for science affected their engagement. People found it difficult to engage with some topics when their background knowledge of or interest in science was low.

### 3. Cultural background

It was shown that the Museum team has much to gain from enabling people to engage with cultural reference points. This was seen through feelings of pride or pleasure relating to content from people's country of origin and content connected to people's faith. In some cases, more negative responses were seen toward content perceived as being contrary to people's values.

These three themes relate well to other research being conducted at the Museum and in the wider sector with underrepresented visitors. Such research has identified that visitors may not be able to engage with the frames of reference used in science museums. Instead they may create a frame of reference for engagement by drawing from every day practices and other contexts such as their

everyday/personal experiences (Chung, 2017).

The Museum team is in the early stages of its work to improve the diversity of visitors that feel the Science Museum is a place for them. The team is using the research described in this article to help create more inclusive interpretation and displays. Based on a community engagement strategy, the team will also continue to work with underrepresented groups and continue to build meaningful and mutually beneficial partnerships.

## THE KNOWLEDGE°ROOM PROJECT—POP-UP SCIENCE AND SOCIAL INCLUSION

The Knowledge°room is a pop-up mini science center, which is set up temporarily in empty shops, former bank branches, or restaurants, sometimes also in co-user spaces, in different districts of Vienna, Austria. For a period of two to three months they become local community and science places where children, teenagers, and adults alike can drop in and engage in a large diversity of hands-on activities linked to science and technology, social and cultural topics.

The main aim of the project, which has been running since 2013, is to contribute to social inclusion by lowering specific barriers, creating a non-threatening environment, and providing low-threshold access to science engagement. It reaches out to individuals and social groups that usually do not visit a science center or museum, making science accessible, understandable, and relevant for them in a playful way. It is also a place where people from different social strands may meet unintendedly and through the means of playful science activities may cooperate with one another and get into an intercultural dialogue.

The Knowledge°room aims to foster self-empowerment, building confidence in individuals to believe they are





Figure 4: Opening of the Knowledge°room in a market booth. © Marko Kovic.



Figure 5: Writing in different scripts. © Marko Kovic.

someone who knows something, can find out things, and can solve problems. Visitors may experience themselves as curious, competent, and accepted by others, no matter which language they speak and what educational background they have.

#### How Does it Work?

There are some key features that constitute a Knowledge°room and make it a special place for informal science learning.

During the three open days per week people can just drop by, without having to make reservations and without entrance fees. When they enter, they find a room full of different exhibits, a chill out zone, materials for experiments, a tinkering corner with tools, and boxes with recycled materials like cardboard boxes, wood, old toys, wire, tape, etc.

Visitors can freely choose what they want to engage with from a diverse range of activities. These include exploring different plants or insects under the microscope, learning to write their name in different languages/scripts, building a chain reaction, or improving a car they started to design the day before in the tinkering zone. Specific thematic topics, e.g. the “day of water,” “music and acoustics,” “building bridges,” “electricity and e-textiles,” and the like, create a diverse program even for regular visitors.

How visitors engage with the diversity of science activities and experiments is open to them, depending on their curiosity, interest in specific topics, and individual learning pace and time available. Many visitors stay more than two hours; children and teenagers often become regular visitors, who come several times a week.

Two explainers host a Knowledge°room during the morn-

ing or afternoon. They have a crucial role in making new visitors feel at ease with this open mode of engagement. They help to orientate visitors and support them as they engage, without “guiding” them through the whole process or providing ready-made workshops.

#### THE KNOWLEDGE°ROOM AS INCLUSIVE SCIENCE LEARNING PLACE

We see a lot of visitors who have never, or very rarely, been to a museum or science center before. The informal atmosphere, the low-threshold access, both literally and on the content-level, and communication at eye-level make them feel at ease. Entering a Knowledge°room for many of them may be a first, playful step into science activities. And it may build a bridge to other science centers and museums if it is an encouraging and inspiring experience for them.

We have observed that many of the regular visitors adopt a notion of being a “science person,” i.e. of being curious and interested in science, knowing something and being able to explain or help other visitors in experiments and tinkering activities. For most of our visitors this may make a difference compared to their usual role and position in school, in the family, and with their friends.

A second important effect is that a Knowledge°room is not exclusively for marginalized social groups, but it is open to everyone. It is a place where migrants and non-migrants mingle, where local people meet with people from other districts, who are specifically looking for science learning activities for their children or for themselves.

The multilingual and multicultural team of explainers are trained in establishing a mutually respectful atmosphere, promoting intercultural encounters, and initiating cooperative learning experiences. Visitors are encouraged to



Figure 6: A woman from Iraq presents her self-built scribbling machine. © Association ScienceCenter-Netzwerk.



Figure 7: Engaging in a discussion game on Smart Mobility. © Association ScienceCenter-Netzwerk.

help each other, or sometimes even to step in as “junior explainers.” In the Knowledge°room, social inclusion and intercultural dialogue are not so much explicit goals but rather casually develop through the hands-on science activities.

#### WHAT HAVE WE LEARNED FROM IT?

With each Knowledge°room with have learned new aspects in working at the intersection of informal science learning and intercultural dialogue/social inclusion. It is crucial that a lot of communication efforts and new ways of communication are taken in order to reach out to different community groups and build trust, especially with migrant communities.

Furthermore, making science relevant and meaningful to people who are rather distant to science or in a situation where science is not at all important for them (e.g. for refugees), needs new perspectives on science and everyday life. People from the communities themselves might become cooperation partners or part of the project team in establishing such an informal science learning place, in order to integrate a diversity of perspectives and approaches.

The next pop-up Knowledge°room is planned for spring, where we will attempt to build on these learning experiences and establish together with community partners another creative and inspiring informal and inclusive science learning space.

#### REFERENCES

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## ILE ANNOUNCEMENT

Colby Dorsey will be joining ILE in December 2017 as the consultant associate. Colby graduated from Baylor University in 2016 with her M.A. in Museum Studies. She completed internships in the Library, Archive, and Museum Services department of the Royal College of Physicians in London, England and at the Mayborn Museum Complex in Waco, Texas. Prior to moving to Denver, Colby worked for the visitor services department of the Mayborn Museum Complex. Outside of museums, Colby enjoys baking cookies, playing with her dog Tigger, and exploring all that Colorado has to offer.

After three and a half years as consultant associate, Kim Tinnell will be departing ILE in December. She recently accepted a position at the Colorado Office of the State Auditor where she will be assisting with legislative performance audits.



# THE INFORMAL LEARNING REVIEW

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## ON THE COVER:

*Children exploring the immersive digital exhibition River of Grass at the Phillip and Patricia Frost Museum of Science, Miami. This experience was one among many that were shared during the GENIAL (Generating Engagement and New Initiatives for All Latinos) Summit in San Francisco in June 2017. One of the goals of the conference was to identify needs and opportunities for Latinos in Informal Science Learning (ISL) environments.*

*Full story on page 14.*

