

APEC Science Centre Impact Project
Roundtable discussions at ASPAC Conference 2007

Chair: Tengku Nasariah Ibrahim
Rapporteur: Meryn McKinnon

Present: Shawn Lani, Exploratorium (US); Yu-Ann Wang, Singapore SC; Thanakorn Palachai, NSM (Thailand); Azmi Che Mat, Nat Sci Cent (Malaysia); Alan Brien, Scitech (Aus); Aphiya Hathayatham, NSM (Thailand); Sue Stockmayer, CPAS (Aus); Graham Durant, Questacon (Aus); Alan Draeger, American Mus Nat Hist (US).

Who are your audiences?

Exploratorium

- Strong presence in regional bay area but have realised that we are not serving the local community very well. Exploratorium has been focussing on national and international models but are now shrinking focus to a more regional area again.
- 45% visitors are <12 years old. Chief visitor demographic consists of family/social groups. 15 - 16 languages spoken in area but content primarily presented in English
- 650 000 visitors per year. Internet audience separate from this count.

Singapore Science Centre

- Centre seen as a tourist attraction. Targeted visitors area local public groups and an emphasis on school groups.
- 1 - 1.2 million visitors per year (residential pop'n of Singapore circa 4 million), which includes 150 - 200 000 students per year. A lot of repeat visitation.
- Target age group is 7 - 12 year olds with 10 - 12 year old age group especially well represented (33% penetrations); 13 - 16 year olds 13% penetration.
- TEX marketed regionally via tourism board but most programmes marketed within Singapore. The Centre is not government gazetted as a part of the country's education agenda.

NSM Thailand

- Chiefly serves local residents due to geographic location relative to city. 1 million visitors per year, 70% of which are school groups, about 30% family groups, <1% tourism.
- Regional location with many outreach programmes offered in the north and north east of the country ranging from between 500 and 900kms from Bangkok.
- Target audience 10 - 15 year olds

Questacon

- Target audience 8 - 14 year olds but wish to engage further with older age groups
- 407 000 visitors per annum including 120 000 school students in organised groups (circa 1902 schools).
- Outreach programmes saw 328 000 people across Aust (inc 3800 schools); 666 000 visitors worldwide to TEX; just under 2 million web users; 400 teachers involved in PD.

National Science Centre Malaysia

- Wide range of target groups from preschool to special needs communities.
- Majority (70 - 80%) visitors are school children - predominantly ages 6 - 12 years, also some secondary school students; some tourists.
- Annual visitation 3 - 400 000 comprised from in reach and outreach.

Scitech

- 200 000 visitors to centre (1.6 million pop'n in WA); 50 000 primary school age group therefore approx 150 000 visitors are 5 - 13 year olds coming with family and general public.
- Outreach sees 100 000 people.
- Approx 2500 teachers participate in PD
- Every two years run programmes in Cocos and Christmas Islands (which are closer to Singapore!)

Petrosains

- 800 000 visitors in total: 400 000 to the centre and 400 000 through outreach.
- Visitors predominantly students and children with families.
- Approx 600 teachers participate in PD each year

CPAS

- Different structure to typical science centre or museum.
- Deliver shows to adults and high school students.
- Conduct teacher PD workshops (groups of 20 - 100) nationally and internationally.
- Conduct communication workshops for scientists (500+)

American Museum of Natural History (NYC)

- 4 million visitors per year: 25% from New York City, 25% from tristate area, 25% from the rest of the US and remaining 25% are overseas tourists. This figure also includes 400 000 school students.
- TEX Planetarium circa 4 million worldwide

To what extent is your institution reaching your target audiences? How does your institution measure “relevancy” for each of your audiences?

Is your institution targeting “new” audiences? If so, describe how you are progressing this and how you are assessing the relevancy of any new interventions or programs?

(Remaining two questions were addressed consecutively. What follows is what was discussed by participants)

Questacon

- Not totally happy with how we are reaching our target audience. Limited resources are an issue. The centre could do more to attract teenagers and young adults; generally not very relevant to that age group.
- Likewise, senior citizens visit the centre with grandchildren, but there is not much in the centre for them either.
- Questacon is useful but it is hard to tell if we are relevant. Need to ask visitors and non-visitors.

Scitech (addressing relevancy/measure)

- A phone survey was conducted with 400 participants. 85% know who Scitech are, where they are located and what they do. 65% have visited.

CPAS

- Evaluations are conducted on the relevancy of the workshops that are conducted. Generally positive and deemed relevant. However the workshops are specialist so it is easier to achieve relevance.

NSM Thailand

- >50% of visitors are repeat customers
- Difficult to do research on relevancy but perhaps can interpret repeat visitation as satisfaction. Visitors have to travel out of their way to get to the museum.
- Visiting teachers initially walked students through the museum, not allowing interaction to occur. The Museum invited teachers in to take them through the exhibitions and show them how to utilise the museum with their class more effectively. 90% of participating teachers returned with their school group - with worksheets, activities and plans for their students who now interact and learn about science whilst in the museum.

Scitech

- Pre-service teacher training provided. Centre used as a resource and a point of reference. Third and final year students from all three universities in Perth participate in this training at Scitech.
- PD sessions for teachers using Primary Connections.
- Sessions also run for gifted students over a ten week period. Programmes include robotics, physics etc. Sessions run for 60-90 minutes per week over a term. Targets gifted students in the primary sector.
- Alan commented that science centres may have to become a little elitist and encourage and engage that talent pool of gifted students. Encourage them and make them comfortable and inspire them to ‘hang on’ with science; this support is not likely to be evident or forthcoming in a school environment where they may be ostracised for their enjoyment of science.

Exploratorium

- We believe that the act of creating a space for dialogue will make you relevant - you become a resource for the community. This is part of the plan for the new location of the Exploratorium, which includes ensuring areas for events such as Café Scientifique or discussions/talks etc.

Singapore Science Centre

- Local scientists suggested installing a really good coffee shop on site to get people in.
- The centre has evaluated their relevancy in the short term by using face to face informal interviews or surveys. No longitudinal studies have been conducted yet.
- The centre conducts half day workshops for teachers focussing on problem based learning (PBL) which is one of the emphasised elements of the science curriculum. They are also modifying many of their programmes to fit in to PBL. (Hence fitting offerings into curriculum, creating relevance that way)
- One of the aims of the centre is to enthuse teachers about science and boost their content knowledge, particularly on topics such as biotechnology, quantum physics and IT. There is some extracurricular content but these are also special additions for smart high school students to extend them further and continue to foster their interest and engagement in science.
- A street survey showed that people thought science was only a school subject and is hard/difficult to do and understand. However people also indicated that they believed science would help them understand things about the world and they were quite interested in science, only to go back to their impression that science was hard and difficult and they didn't want to do it.

Scitech

- Arising from Singapore's discussion of how they are engaging teachers, Alan spoke of the SPICE programme which runs out of Uni of Western Australia (UWA). Teachers go and work in UWA for a term developing a programme on a particular topic utilising University knowledge and resources, as well as Scitech. They then return to school to teach the programme to their students.
- Scitech also run science fairs in regional towns over three days "Beyond the Beaker". Young role models talk to high school students in these regional areas about science, technology and engineering related careers - from mechanics to medical students. Involves government departments, researchers, institutions all working together to showcase their work, have interactive displays and then run professional development for the teachers on the third day of the fair in collaboration with Scitech. Scitech facilitates the partnerships which hopefully then continue beyond the fair.

American Museum Natural History

- Try to capture the young adult market by attracting them through non-science means. For example holding an event called Sonic Vision in the planetarium where visitors can lie back in the planetarium and listen to the latest popular music and watch the associated digital imagery projected onto the ceiling. Also hold "Jazz Under the Stars". Trying to generate the opinion that "It's cool to come, to have a party in the museum."
- Retail and branding aimed at the high end with the inclusion of furnishings, carpets, face masks etc.

Session ends.