

# VISITOR IMPACT STUDY OF THE PHILIPPINE SCIENCE CENTRUM

Dr Vivien M Talisayon

Former Director University of the Philippines – National Institute of Science & Mathematics  
Education Department (UP NISMED)

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## About the Philippine Science Centrum

The Philippine Science Centrum (PSC) was launched in 1990 by the Philippine Foundation for Science & Technology as the first dynamic, interactive science museum in the country. The PSC seeks to draw both children and adults into the world of science and technology: a world of learning, discovery and fun. The process of learning through doing at one's own pace is the heart of interactive learning.

The PSC envisions a science-cultured and productive Filipino citizenry that would sustain the country's development goals. Now operating its exhibit spaces at the Riverbanks Center, Marikina City, the PSC is pursuing its mission of promoting science and technology consciousness among the youth and various sectors of the society. Originally at a separate location but now within the PSC, *Science Works!* is an interactive children's playground dedicated to science learning and enjoyment for 3 to 12 year-olds.

To date, over 2.9 million students, teachers, adults and members of the general public have visited the PSC, and over 1.3 million Filipinos in the provinces have shared the same experiences and excitement with the PSC's *Adventures In Discovery* and *Sci-Fun Caravan*.

## Assessing the impact of PSC

To evaluate the usage and impact of the PSC during its first five years, a study team headed by Dr Vivien M Talisayon of the University of the Philippines' National Institute of Science and Mathematics Education Development (UP NISMED) gathered data during August–October 1995.

The sample consisted of students and schools to which the research team had easy access: 1445 students from 16 elementary schools (15 private schools) and 948 students from 12 high schools (9 private schools).

The findings included the following:

### How many visitors?

1. The number of visitors of Science Centrum increased at an average rate of 24% per year for 1990–1994, with the highest increase (40%) being from 1991 to 1992 and the lowest increase (8%) being from 1993 to 1994.
2. In 1990–94, 70% of the visitors came from private schools and 50% from the national capital region, Metro Manila; about 50% were elementary school students, 46% were high school students, and only 4% were pre-schoolers.
3. In 1994–95, 88% of Science Works visitors came from private schools and 85% from Metro Manila, 43% of the visitors were pre-schoolers, 43% were grade schoolers, and only 14% were high school students.

### Visitor feedback – immediate and long-term

#### *(i) Interest in science / engineering careers*

4. When students were interviewed immediately after the visit to the Centrum or Works, a majority of grade schoolers (69%) and high school students (57%) replied that their visit made them want to be a scientist or engineer.
5. For another group of students, interviewed 1–3 years after their visit, the percentage interested in a science / engineering career was lower: 50% of grade schoolers and 35% of high school students.
6. For a third group of students, interviewed 2–4 years after their visit, the percentages were slightly higher—55% of grade schoolers and 42% of high school—but again not as high as for the students interviewed immediately after their visit.

#### *(ii) Perceived learning*

7. More than 50% of the visitors from elementary to high school indicated that they learned ‘very much’ from the exhibits immediately after viewing them and ‘much’ one to four years after the visit. However, their performance in a written quiz on the science/mathematics concepts of the exhibits was average: 51% for Grades 1-3, 10 test items; 46% for Grades 4-6, 15 items; and 44% for high school, 10 items.

#### *(iii) Interest in a repeat visit*

8. A majority of the visitors expressed interest in visiting the Centrum/Works, again. For those who just saw the exhibits, the percentages are 74% for grade school students and 66% for high school students. The percentage was higher 1–4 years after the visit: 86% for grade schoolers and 82% for high school students. For this second group, 89% of the grade school students and 96% of the high school students wanted their friends to visit the Centrum/Works.

#### *(iv) Interest in science*

9. Immediately after the visit, the experience increased the visitors’ interest in science ‘very much’ for elementary school students (72%) and high school students (69%). The percentage for ‘very much’ was lower 1–2 years after the visit: 54% for grade schoolers and 49% for high school students. And 2–4 years after the visit, the perceived increase in interest in science due to the visit was ‘much’ for 53% of both elementary and high school students.

#### *(v) Reactions to exhibits*

10. Immediately after viewing the exhibits, 77% of elementary and high school visitors found the exhibits interesting, and 21% considered them useful.
11. Another measure of interest in the exhibits was the number of students who talked to their family and friends about the exhibits after the visit—88% of grade schoolers and 95% of high school students who had visited the Centrum 1–4 years before the data collection period for this study.

#### *(vi) Relevance of exhibits to education requirements*

12. On the extent to which all the exhibits (content, skills required and attitudinal impact) are aligned with the ‘Science and Technology Agenda for National Development, Philippines 2000’, three science education experts from the Department of Science and Technology gave an average rating of ‘4’ (rounded off) on a scale of 1 to 5 where ‘5’ means perfectly aligned. Exhibits receiving a rating of ‘5’ included the phosphorescence, plasma sphere, laser, colored

shadows, Bernoulli blower, and Lego. These were also among the exhibits best liked by the students.

(vi) *Value for money*

13. A majority of visitors (64%) thought that the admission cost was reasonable. The maximum entrance fees that student visitors were willing to pay, with the greatest percentage response, were P 20 (24%), P 50 (19%), and P 100 (12%).

## **Conclusions**

Immediately after their visit to the Science Centrum / Science Works, a majority of school students at all levels of schooling had positive responses on a number of dimensions:

- increased interest in science
- interest in science / engineering careers
- perceived learning from the exhibits
- interest in the exhibits
- desire to visit again

Responses from students who were interviewed 1–4 years were still generally positive, but to a lesser extent, with one exception: the desire for a repeat visit was higher for students who had visited the PSC 1–4 years previously than for very recent visitors. Very large percentages of students in all groups reported talking about the exhibits to their family or friends.

These findings suggest that a visit to the Science Centrum / Science Works is a memorable experience which can increase students' interest in science and related careers, and for at least some students this 'increased interest' effect persists for a number of years.

Overall, the exhibits were very well aligned with the 'Science and Technology Agenda for National Development, Philippines 2000'.