Science on the Move – Exhibit Design Workshops

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Background

In 1995, Questacon, Australia's National Science and Technology Centre, toured its hand-on interactive *Fascinating Science* exhibition to Western Samoa, Tonga and Fiji. The stimulus for this programme came from the UNESCO office for the Pacific States and their concern that the Pacific region has little or no access to such programmemes that are taken for granted in many other regions of the world.

Following the success of this programme, Questacon began consultations with AusAID, UNESCO and the Department of Foreign Affairs and Trade to develop a proposal for a significant new programme entitled *Science on the Move*.

In May 1996, Questacon worked with educators from Western Samoa, Tonga and Vanuatu to develop the early concepts for this new programmeme. National Coordinators, appointed by participating countries, met during October 1996 to further develop the programme. The exhibition was completed in January 1997 and featured 33 specially designed hands-on exhibits for major population centres and 32 smaller hands-on exhibits for travelling to regional and more remote areas. By August 1997 these exhibits had toured nine Pacific countries – Marshall Islands, Kiribati, Tuvalu, Vanuatu, Fiji, Solomon Islands, Cook Islands, Tonga and Samoa. More than 60,000 visitors experienced the *Science on the Move* exhibition and science shows. Over 300 teachers participated in teacher training workshops designed to introduce interactive

A *Science on the Move* workshop in Vanuatu.

Science on the Move in Fiji.

approaches to the learning of science. In addition, many local students, teachers-in-training, and curriculum officers were trained as explainers. The *Science on the Move* exhibition provided a highly visible and exciting backdrop which inspired a fresh way of thinking among those engaged in formal and non-formal education in terms of how to communicate science ideas and their relevance to everyday life.

Exhibit design workshops

Participants in Fiji collaborate in an exhibit design workshop.

The next phase of Questacon's *Science on the Move* programme in the Pacific, involved the presentation of two Exhibit Design Workshops aimed at education professionals with an emphasis on those involved in informal education. These workshops took place in Vanuatu and Fiji in May 1998 and were facilitated by staff from Questacon and the Investigator Science and Technology Centre.

Participants included staff from Cultural Centres and Museums as well as science teachers. They were selected according to the following criteria:

- Involvement (or interest in becoming involved) in the design of exhibitions, displays or other types of programmes which seek to educate communities
- Willingness to participate actively in order to generate new ideas for interactive style exhibits that could be built for museums, cultural centres or other informal education institutions
- Interest in science and technology as it relates to Pacific contexts – including traditional contexts

The workshops involved a total of 27 representatives drawn from surrounding countries: Vanuatu, Papua New Guinea, Solomon Islands, Cook Islands, Fiji, Niue, Samoa and Tonga.

The objectives of the workshops were to:

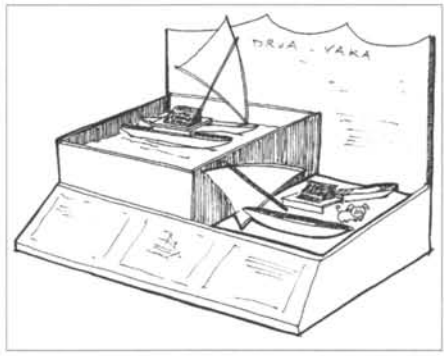
- Promote awareness and understanding of science and technology and their relationship to everyday life
- Increase skills and capabilities of staff in the development of interactive programmes

- Develop an awareness of the potential of interactive exhibits to communicate not only the new, but also the traditional sciences and technologies relevant to Pacific countries and contexts
- Promote and develop a network of non-formal and informal education professionals throughout the Pacific region.

The workshop process

Each workshop began with the participants modelling some of the key stages of the exhibit design process. In small groups they were given a particular science concept and assigned the task of designing an interactive exhibit that would enable visitors to explore that concept.

After discussion and some rough sketches the groups set about building a small prototype of their exhibit using a range of tools and materials provided. Once the prototype exhibits had been constructed, often after significant modifications to the original ideas, the groups prepared text panels, which provided clear instructions on how to operate the exhibit, what to observe and how the exhibit related to science in everyday life. The groups then presented their exhibits and there was time for each group to experience the other exhibits.



Making it relevant. The peoples of the South pacific region have used the double hull canoe for long distance voyages and fishing for many years. Using the double hull canoe as a model, this exhibit explores concepts of flotation and buoyancy, centre of buoyancy, shape, balance and stability.

This activity provided participants with some practical experience of factors to be considered when designing an interactive exhibit.

A key idea of the workshops was to develop exhibit concepts that would relate to science and technology – especially in traditional contexts – in the lives of people in the Pacific. Participants were asked to list topics that involved science or technology concepts or processes drawn from modern or traditional life in Pacific countries. The list was extensive and included topics such as building techniques and fire making and navigation and communication methods.

In small groups participants chose one of the topics and generated ideas for an interactive exhibit. After discussion the group agreed to certain parameters for the exhibit designs:

- The exhibit concept may be based on a topic with a science and/or technology basis.
- The exhibit concept may focus on either traditional or modern contexts.
- The exhibit concept should be developed so that it is possible for the exhibit to tour from one Pacific country to another.
- The exhibit concept should be one that participants would be genuinely interested in building if funds were provided.

The groups documented their ideas using the following format:

- Exhibit name – what is the title of this exhibit?
- Message – what message(s) does this exhibit communicate?
- How it works – what does a visitor do to operate this exhibit? What does a visitor notice?
- Concept – what science principles and concepts does this exhibit explore?
- Relevance – how is this exhibit relevant to Pacific contexts – either traditional or modern?
- Additional notes – does this exhibit suggest ideas for other exhibits? Are there particular issues that may need to be addressed?

Once an exhibit idea was shaped, the group discussed their design concept with an Australian facilitator who then developed an illustration to show a possible representation of the exhibit. As exhibit concepts were completed they were displayed on the walls and recorded on a computer in readiness for publication.

Participants changed groups from time to time. Different groupings helped to stimulate new ideas and encouraged professional relationships to develop. At various stages during the workshops the groups shared brief reports on the ideas they had generated. In total, 47 exhibit design concepts were produced with many suggestions for additional exhibits.

All participants were committed to the importance of communicating aspects of their traditional cultures and realised that their institutions – schools, museums and other cultural centres – had an important role to play. A recurring theme throughout the workshops was the importance of people being actively involved in their learning.

Staff from cultural institutions were keen to explore new ways to communicate information and knowledge contained in their collections of artefacts and saw an interactive approach as an effective way of passing on skills and traditional knowledge.

The teachers in the groups were keen to explore a wider range of interactive activities that could be drawn from the exhibit concepts and included in their school programmes.

All participants gained an increased understanding of the importance of hands-on activities in the education of people of all ages.

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