

**SCIPAS Report No. 1**



**Living Knowledge**  
The International Science Shop Network

# **Science Shops Operational Options**

**Andrea Gnaiger  
Eileen Martin**





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**Science Shops:  
Operational Options**

**Andrea Gnaiger & Eileen Martin**

**July 2001**

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Improving the Human Research Potential and the Socio-Economic Knowledge Base(IHP)  
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Andrea Gnaiger & Eileen Martin  
Innsbruck & Belfast

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## Summary

The aim of this workpackage is to identify, describe and comparatively evaluate the diversity of models which have evolved within the science shop movement which developed in Europe in the 1970s. This report gathers together existing information on science shops and community based research organisations from across the world. The role of these organisations is to facilitate knowledge transfer to and from civil society organisations. The definition of science shops and Community Based Research (CBR) organisations used throughout the report is as follows:

*A science shop provides independent, participatory research support in response to concerns experienced by civil society.*

Science shops use the term 'science' in its broadest sense, incorporating social and human sciences, arts, as well as natural, physical, engineering and technological sciences. Science shops offer citizen groups free or low cost access to scientific or technical knowledge which will help them to achieve social or environmental improvement.

What distinguishes science shops and CBR organisations from traditional knowledge transfer facilities is their commitment to participatory methods. Much of the research produced by science shops is in direct response to the expressed needs of community organisations. Such research therefore reflects the concerns of civil society rather than the interests of researchers, academic institutions or private companies.

The data collected suggests that it is useful to distinguish between two main models of science shops: those which follow the Dutch model and are university based and those which are not based in a university.

The second type can be further divided into those which have a relationship with a university, those without such a relationship and those which act as incubators for establishing a science shop. All these models share the aim of providing research support to civil society organisations.

The report deals with both existing data and data which was generated by the partners via a survey (to which there was a 38% response rate) and 7 semi-structured interviews with science shop staff from across the world. The oldest science shop was founded in 1960 and the most recent in 2000. Some science shops received as many as 300 requests for research or information in one year and the maximum reported number of such request which were completed was 112.

Requests are accepted by Science Shops from a wide range of groups including community and voluntary groups, trade unions, religious groups, environmental groups and local authorities. Research is carried out by science shop staff, university staff and students and both voluntary and paid researchers. The process of the research is mainly participatory, with 60% of respondents to the survey agreeing that there was always discussion between the group and the researcher on the nature or process of the research. The research results are then used by the civil society organisations and often shared with other interested groups.

There are clear indications from the survey that science shops are a very cost effective way of providing research and information to a wide range of civil society organisations. Staff tend to be highly motivated, but often poorly paid and on short term contracts. In spite of the limitations of what science shops can offer, the demand for their services continues to grow. Through the science shop movement, civil society organisations can obtain and contribute to

research, which they can then use to effect change in their own social situations. There is clearly a need to develop the role of science shops in facilitating knowledge transfer. Co-operation at an international level is providing the basis for the continuation of this movement and providing support for the development of science shops as a resource in emerging democracies.



# 1 Introduction

## 1.1 Science shops

In addition to demands made on research and development by commerce and industry, “civil society” organisations have their own research needs. Knowledge transfer often focuses on communication from researchers to society, but increasingly there is a demand for communication from society to researchers. This is the concept of “social demand” for knowledge (Valenduc and Vendramin 1995, p.52). Different types of interfaces exist between researchers and society: the science shop is one such interface.

*A Science Shop provides independent, participatory research support in response to concerns experienced by civil society.*

Science Shops offer citizens groups free or very low-cost access to scientific and technological knowledge, in order to help them achieve social and environmental improvement. The term Science is used in its broadest sense, incorporating social and human sciences, arts, as well as natural, physical, engineering and technological sciences. Science shops are organisations which mediate between citizen groups (including trade unions, non-profit organisations, pressure groups, environmentalists, consumer associations and residents associations) and research institutions, (universities and independent research facilities). What distinguishes science shops from traditional knowledge transfer facilities is that they are committed in theory and practice to “participatory” methods. Furthermore, they do not just provide a mediation facility, they also conduct their own research projects, generated from requests received from citizen groups.

The science shop concept developed in Dutch universities during the 1970s. It emerged out of the students’ movement, and included university staff who were critical of the status quo and wished to democratise the Universities. Their aim was to increase the influence of the civil society on the Universities, to make contact between citizen groups and scientists and to make use of the knowledge available at the universities.

The science shop concept spread across Europe in two waves, also reaching non-European countries. Triggered by publications by Tony Ades in *Nature* in 1979, and Dickson in *Science* in 1984, in the first wave in the 1980’s a number of science shops were created in Australia, Belgium, Denmark, Northern Ireland, France, Germany and Austria. In the mid/late 1990s science shops in England, Israel, South Korea, Malaysia, New-Zealand, Australia (re-established) and Canada followed. In the mid 1990s, some Dutch science shops began to actively export the science shop concept to Czechoslovakia and Romania. From the 1970’s, movements similar to science shops also developed in the USA (1970s), England (1980s) and South Africa (1995).

The way a science shop is organised depends on the scientific, socio-political, cultural environment and funding options at a certain time. In general, we distinguish between two main models of science shops: first: the university based ones following the Dutch model, second: the non-university based ones. These can be divided into NGOs (Non Governmental Organisations) with university relations, NGOs without university relations and those which act as incubators for other projects. All these different models provide research support to civil society.

There is not one dominant organisational structure defining a science shop. How science shops are organised and operate is highly dependent on their context.

The above definition of a science shop might also include organisations that do not self-define as a science shop. Organisations that meet the definition of a science shop and do provide civil society with knowledge and skills through research and education on an affordable basis will be taken into account. The term 'science' is used in its broadest sense, incorporating social and human sciences, as well as natural, physical, engineering and technical sciences.

All science shops seek to:

- provide civil society with knowledge and skills through research and education;
- provide their services on an affordable basis;
- promote and support public access to and influence on science and technology;
- create equitable and supportive partnerships with civil society organisations;
- enhance understanding among policymakers and education and research institutions of the research and education needs of civil society;
- enhance the transferable skills and knowledge students, community representatives and researchers.

## 1.2 The SCIPAS project

The SCIPAS project ('Study and Conference on Improving Public Access to Science through science shops') led to seven reports and a scientific conference. SCIPAS was awarded financial support by the European Commission through the contract HPV1-CT-1999-00001 under the 5<sup>th</sup> Framework Programme of the European Community for Research, Technological Development and Demonstration Activities (1998 to 2002), and its specific programme "Improving the Human Research Potential and the Socio-Economic Knowledge Base" ("Strategic Analysis of Specific Political Issues").

The executive consortium of SCIPAS consisted of institutes from The Netherlands, Germany, Austria, Northern Ireland, Denmark, Israel, Romania, South Africa and the USA. The seven studies that were done in preparation to the conference are:

1. Compiling an inventory of different ways to organise and operate a science shop in different countries, including the participating countries. Identify best practices, and internal and external pros and cons of various operational options. Investigate the impact on the social and environmental conditions of citizen groups.
2. Compile a report on success and failure in starting new science shops and lessons to be learned to facilitate and support the creation of new science shops.
3. Make an inventory of needs and resources for training programs for science shop staff members. Identify mechanisms for matching science shop staff with training programs.
4. Describe the options for setting up an international science shop magazine or other means (e.g., an Internet archive) for publishing science shop research results and policy issues internationally.
5. Set up a free, publicly available Internet database of existing science shops and facilitate Internet contacts among science shops. Make an inventory of options for using automated translation facilities and interesting links.
6. Investigate the impact and develop strategies for how science shops can contribute, and are contributing, to the development of university education and research, i.e., their impact on curricula and research agenda's.

7. Investigate the potential benefits of, and the conditions for, transnational co-operation among science shops, including transnational research collaborations.

The conference 'Living Knowledge: building partnerships for public access to research', was held in Leuven, Belgium, from 25 - 27 January 2001. It was attended by 106 people from 19 different countries over 4 continents. Beyond its intrinsic value, the conference and the project documents are an indispensable milestone for laying the foundation of an international or European network of science shops, provisionally entitled 'Living Knowledge'. This network includes the four dozen science shops currently existing within the European Union and it will hopefully facilitate the creation of new science shops throughout Europe (including less-favoured regions). The network also includes science shop-like institutions and networks outside of Europe. Ultimately, the benefits to science and society interactions will be:

1. Increased visibility and accessibility: Science shops become more publicly visible, thus more accessible to potential client groups. It opens avenues for support from universities and citizens, as well as policy makers.
2. Improved documentation and evaluation: New participants (e.g., newly established science shops) get support more easily, by standardisation of documents, protocols, etc. without neglecting their regional context.
3. Dissemination of results: Research results become more widely disseminated (including internationally). Successful research models can be replicated and further developed. Research themes can be distinguished; information on emerging subjects can be compiled and communicated to policy makers and (other) research institutes.
4. Collaboration: Collaboration yields synergy and helps utilise previous experience. More comprehensive studies can be done. Citizen group driven studies on transnational issues become more practicable. Science shop policy and strategies will also benefit from co-operation.
5. Quality control: A network enables standardisation in documenting, evaluating, archiving and retrieving science shop research results.

This report on training programmes, along with the reports of the other six workpackages and the conference, are milestones in achieving such a European network.

### **1.3 Aims of the present study**

The aims of the present study are to identify, describe and comparatively evaluate the diversity of existing science shop models and practice in different countries. As many models as possible are to be included in the evaluation, resulting in a summary of operational options for science shops. In the future, citizen groups who approach science shops for help will be getting a service that draws on the widest possible framework of experience.

Further objectives are to:

1. Document the science shop success and failure stories.
2. Publicise the potential impact of citizen-driven research.
3. Reflect on quality assessment and benchmarking of science shops.

## **2 Methods**

### **2.1 General remarks**

To achieve the information necessary for this report and to shed light on the topic from as many angles as possible, the decision was taken to use different kinds of data and to apply different methods. Details of the research methods and the results are outlined below.

In the present project we are dealing with two main types of data.

1. Existing data: includes publications, evaluations, leaflets, homepages and our own experience (workshops, networking). This information is analysed in relation to the objectives of workpackage 1 along with the newly generated data.
2. Newly generated data consists of:
  - a. a survey via questionnaire
  - b. case studies via semi-structured interviews

#### *Purpose of the questionnaire*

The questionnaire serves the following purposes:

- a) to gather the most up to date information in order to see where the science shops are in term of their development;
- b) to get information on topics that are not usually dealt with in the existing written information on science shops e.g. budgets, success or failure, standards, training programmes, knowledge transfer methods and follow up methods;
- c) to initiate contact with science shops with regard to the future network;
- d) to call attention to the SCIPAS project and the upcoming conference "Living Knowledge" in January 2001.

It is important to view the results of the present questionnaire in conjunction with the interviews, the analysis of existing literature, papers, annual reports, homepages etc, as isolated data is a not reliable source of information.

#### *Purpose of the interviews*

We expected to get information on the development of the science shops, on processes, on major changes within science shops, on indicators for success and failure and how science shops define success and failure. We were especially interested in science shops which were operating successfully and science shops experienced in management, evaluation and self-reflection.

### **2.2 Questionnaire**

#### *General*

When deciding whether to use a questionnaire, three issues were considered: literacy, motivation and how amenable to the study the respondents were likely to be. It was assumed that the respondents would be literate (as the questionnaire was only to be printed in English) and highly motivated about the topic being studied as all were working in the same

field. A postal survey using a questionnaire can be carried out in a shorter time with fewer interviewers and it reaches more people. Mailed surveys, particularly when combined with follow-up telephone interviews, also allow for wider geographic coverage with little additional cost. In some cases, respondents are more willing to complete a self-administered questionnaire when it can be done at their own convenience. There is however no control over the situation in which the questionnaire is filled in, so answers to questions may be influenced by the specific circumstances of each science shop. The personal experiences of the person answering the questionnaire can also influence the results. Postal questionnaires can have a low response rate.

The questionnaire (see Appendix 1) was sent to all science shops known to SCIPAS consortium members in June 2000. It was also sent to community based research centres and similar organisations in Europe, the United States of America, Canada, Australia, South Africa, New Zealand and Korea. The addresses for these organisations were collected within the SCIPAS consortium, whose members drew on contacts built up during the last 10 years.

### *Creating the questionnaire*

The questionnaire was structured so that questions that all respondents could answer were at the beginning and questions that were only to be answered by university based science shops were at the end of the questionnaire. Self administered questionnaires work best when the focus is in the present, therefore the questions focused on the current situation of each science shop and the follow-up interviews were designed to probe deeper into history and long-term development.

A mixture of closed (pre-coded) questions, where the informant could choose from a set of pre-selected answers, and open-ended questions were used. Most of the questions were closed to encourage a high return. Only one ranking question was used (How would you use additional money if it became available Q35) to avoid a primacy effect. Efforts were made to keep the questionnaire as short as possible, although when the questionnaire was pre-tested within the SCIPAS consortium it was subsequently extended to take into account comments made by consortium members.

## **2.3 Interviews**

### *Interview sampling*

Semi-structured in depth interviews can provide detailed explanations and descriptions of processes. The use of open-ended questions allows the informant to discuss an issue more freely. The decision to conduct telephone interviews was based on the international nature of respondents.

The sampling frame:

All science shops, community based research centres and similar organisations that received the questionnaire.

Sampling:

Judgement sampling.

Our results depended on:

- a) the results of the questionnaires;
- b) the science shops willingness to give an interview.

The following aims were agreed in advance:

- to cover different countries where science shops, community based research centres or similar organisations continue to operate.
- to cover different scientific fields.
- to show the diversity of existing models and operational options (university based, non-university based, community based research centres, centres involved in commercial activities).
- to concentrate on experienced science shops, community based research centres or similar organisations. It is difficult to evaluate a project which has only been recently established, however some newer organisations were included were asked about their aspirations and what targets they would use to judge their success in three years time.

The following partners agreed were to be interviewed (this includes science shops that did not respond to the questionnaire):

1. Science Shop Graz - Austria (development from non-university based to university based)
2. Science shop Vienna - Austria (always non-university based)
3. St Francis Xavier University – Antigonish, Canada (university and community based)
4. Kubus Berlin - Germany (university based)
5. Community Research Exchange – Manchester University, United Kingdom (university based)
6. Action Connection - Edinburgh University, United Kingdom (university based)
7. Geschiedeniswinkel RUG - the Netherlands - (university based and involved in commercial activities)

These cases do not provide a comprehensive map of the different models and operational options in various countries, but do represent a range on operational options. Further models will be explored in more detail in future research.

#### *Interview procedure*

Semi-structured interviews were used, where the sequence of the questions can be altered. The interviewer is free to pick up topics emerging from answers and to probe for more information, giving more flexibility (Hall and Hall 1996, 156f). We were only in a position to conduct telephone interviews and tried to speak to the most experienced person, in general the co-ordinator of each project. The two partners of workpackage one decided to split the interviews, as the flow of the interview should be better if the interviewer and the interview-partner were speaking in their mother tongue, so richer and more detailed information could be obtained.

The Northern Ireland Partner conducted the interviews in Great Britain and Canada. The Austrian partner carried out interviews in Austria, Germany and The Netherlands. As the legal situation in Austria does not permit recording telephone interviews, there is no technical equipment available on the market to do so. The interviews conducted by the Austrian partner had to be documented by taking notes during the telephone call and the interview reports were typed immediately following the telephone call. English summaries are presented in chapter 3.

The Northern Ireland partner recorded the interviews and made transcriptions. In all cases, the interview-partner had approval of the final document which gave the interview-partners the possibility to remove parts they did not want to communicate to a general audience.

### *The interview guide*

An interview guide was prepared with a focus on the following topics:

- Development - status quo, changes over time
- Success - criteria for success and failure and obstacles to success, competitors
- Dissemination of information - PR-methods, publication of results,
- Working methods - quality standards, networks
- Political, economic, social or cultural impact
- Profile of science shop staff
- Tips for establishing or developing a science shop.

### *Estimated time*

The time estimated to conduct an interview was 50 - 60 minutes, depending on the interview partner. A comprehensive version of the interview guide was mailed to the interview partner in advance to give the informant time to prepare.

### *Instructions for the interviewer*

Following Atteslander (Atteslander, 2000, S. 146) we decided to go for a loose form of the neutral interview, where the interviewer remains reserved but interested and avoids commenting (positively or negatively) on the informant's attitude.

### 3 Results

#### 3.1 The Questionnaire

##### 3.1.1 Background Information

###### *The Survey*

The survey was administered in July 2000. A copy of the Survey 'Living Knowledge: Building Partnerships for Public Access to Research' can be found in Appendix 1. The questionnaires were mailed to a total of 150 possible participants. Of these 94 were sent to Europe, 23 to Canada and 33 to United States of America.

###### *Response Rate*

The number of useable returns was 56 responses. This represents a return rate of 38%. Although the response rate was disappointing, a response rate of 30% or above is considered normal for postal surveys. Nevertheless, the useable returns are small in number and, for this reason, analysis was limited and some findings should be interpreted with caution. Possible reasons for the return rate included (1) the overall length of the questionnaire, (2) informing participants adequately before the survey, and (3) the timing of the survey which was carried out during the summer holiday (see 'Non-response study', Appendix 2)

###### *Profile of Respondents*

Figures 1 and 2 below outline the profile of respondents to the survey. The majority of respondents were from the Netherlands (36%, n=20), Canada (18%, n=10) and the USA (12.5%, n=7). A few responses came from countries not part of the consortia, i.e. Korea (2%, n=1) and New Zealand (2%, n=1).

Figure 1: Summary of Survey Respondents

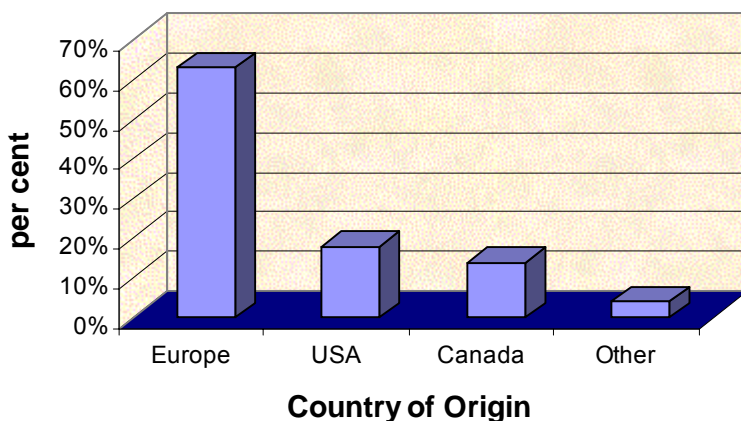
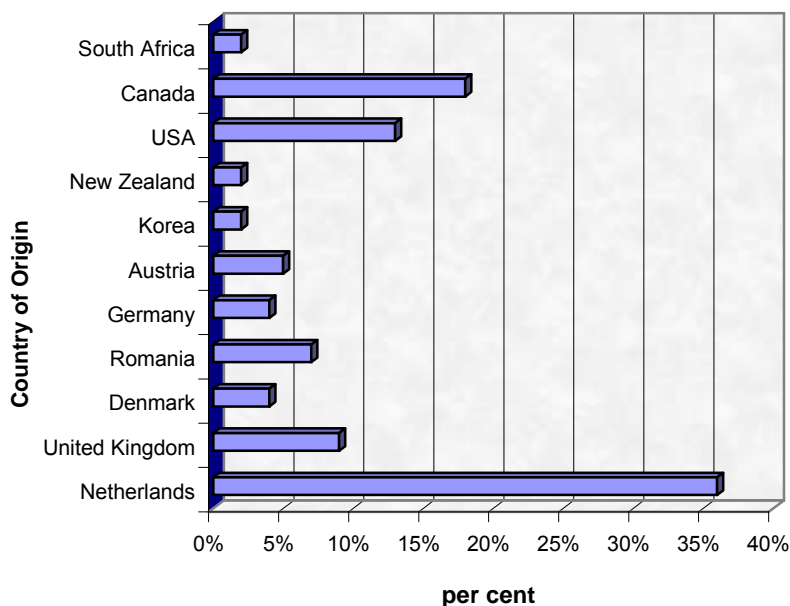




Figure 2: Percentage Breakdown of Survey Respondents



### 3.1.2 Science Shop Details

The survey was interested in finding out what year the relevant Science Shops were founded. The founding dates varied. While the 'oldest' Science Shop in the survey was founded in 1960, the 'newest' was founded more recently in 2000.

The number of research requests received in the past year also varied. Some Science Shops did not receive any requests, while others received up to 300 requests. The most reported number of research requests completed during this twelve-month period was 112. Some of the newer Science Shops, e.g. those who are part of the CURA/SSHRC project are too new to have many research requests received or completed. There is no link between the age of a Science Shop and the number of requests it receives or completes.

#### *Working with Community Groups*

Requests are accepted from a wide range of groups. Table 1 below outlines who research requests were most likely to be taken from.

Table 1 indicates that the majority of respondents accept requests from community and voluntary groups (95%). Sixty per cent and over accept requests from environmental groups (64%) and local and regional authorities (62%); over 50% accept requests from health authorities (55%), and trade unions (54%); while just under 50% state that they accept requests from individuals (46%). Requests from other sources were also accepted, including those from universities, parliamentarians, student organisations, large firms, not-for-profit economic sector organisations and other research institutes.

Table 1: Research Requests

Requests	Yes
Community/Voluntary Groups	95%
Trade Unions	55%
Religious Groups	48%
Environmental Groups	64%
Political Parties	35%
Community Business	32%
Small Business	32%
Individuals	46%
Local/Regional Authorities	62%
Police	26%
Schools/School Pupils	51%
Health Authorities	55%

Figure 3 illustrates that research topics are generated mainly from *both* within the science shop and from groups (63%, n=35).

Figure 3: Generation of Research Questions

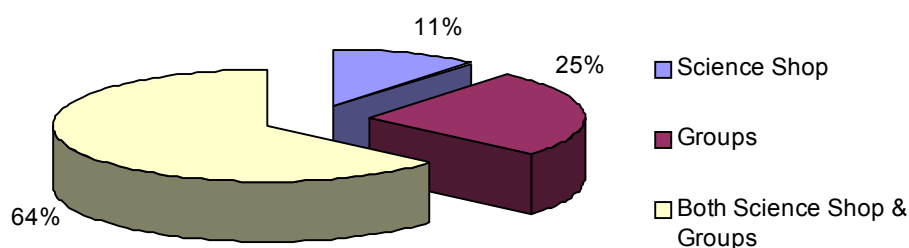


Table 2 following shows that the majority of research is carried out by science shop staff or students who are working towards a course or diploma. Research is least likely to be undertaken by students working as volunteers.

The majority of community groups agreed that they will continue to approach the science shop for assistance once a relationship has been established (86%, n=48). It is too early to determine this for some of the newer science shops. The research is generally organised by a co-ordinator (49%, n=27).

Table 2: Conducting the Research

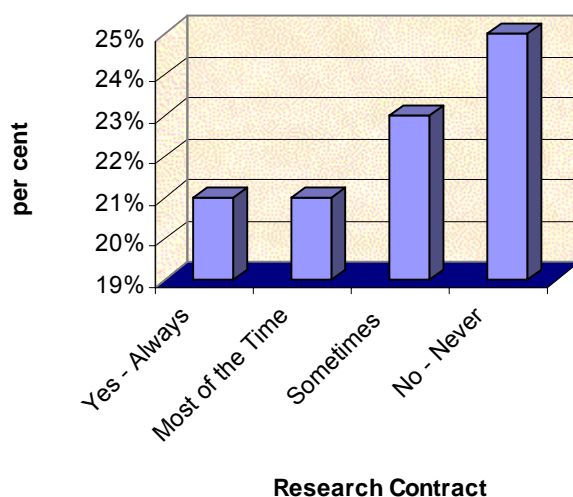
Conducts out Research	Percentage Yes	Percentage No
Science Shop Staff	71% N=40	29% N=16
Students (for course/diploma)	71% N=40	29% N=16
Students as Volunteers	34% N=19	66% N=37
Volunteers/Researchers (Unpaid)	45% N=25	55% N=31
Subcontracted Researchers (Paid)	48% N=27	52% N=29

### The Process of Research

The process of the research is mainly participatory. Over 60% of respondents agree that there is always discussion on the nature or process of the research (63%). Discussion is mostly initiated by the science shop (49%) and by a combination of the science shop and the client group (40%). Rarely do the client groups initiate the discussion (2%).

Just over half the respondents (52%) report that the researcher always meets with the group during the research. Follow up meetings are less common, with just under one fifth (18%) always meeting once the research has been completed. With regard to research contracts, while 21% of respondents use a research contract, 25% admit to never using a contract for research. (See Figure 4).

Figure 4: Use of a Research Contract



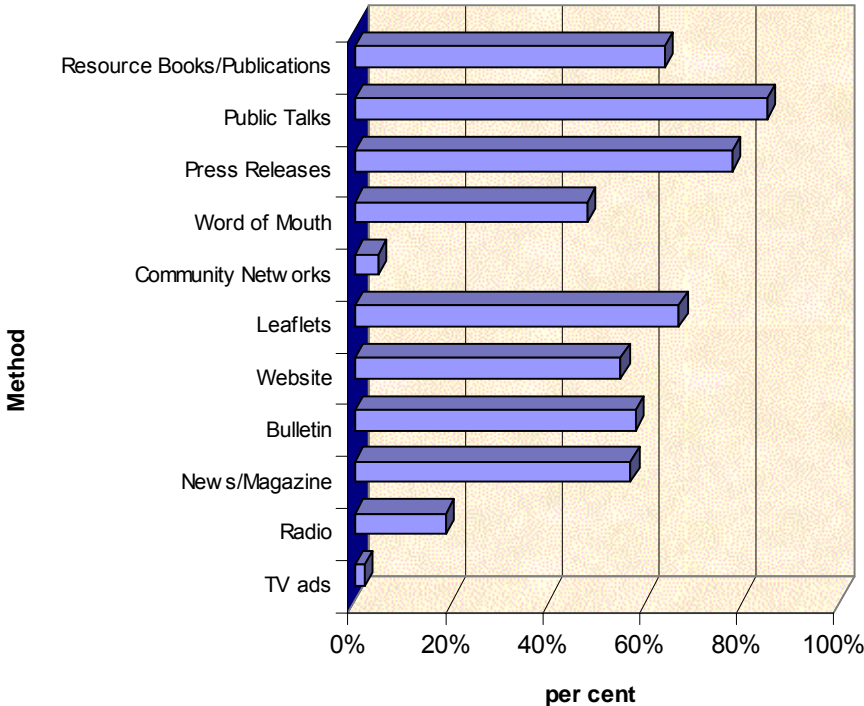
When asked about completion of the research over 10% of Science Shops responded that they always completed on time and just under half (44%) of the respondents indicated that they did so most of the time.

*Publicity*

*1 Attracting Research*

Figure 5 graphically represents the range of methods used by respondents to attract research. Most of the respondents used a variety of methods. The two most popular publicity methods used to attract requests are by holding a public talk or event (86%) and through press releases (79%). The least likely methods to be used were TV advertisements and community networks. Free publicity (23%) and mailshots (15%) were amongst the other publicity methods most regularly used by respondents.

*Figure 5: Method of Attracting Research*



*2 Release of Research Findings*

Generally, Science Shops release the results of their research. Table 3 shows that just over a third of respondents (34%) frequently release the results of the research, while a further

29% do so all of the time. Only a small percentage (4%) never release the results of the research to the public.

Table 3: Release Results of Research

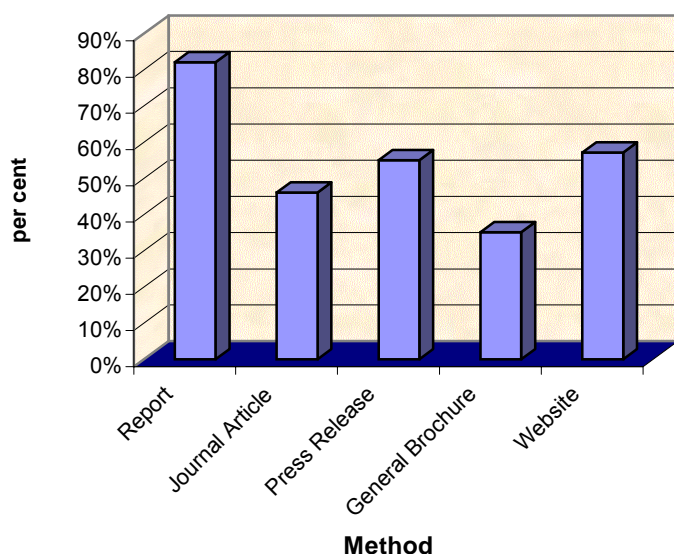
	Percentage	N
Yes – Always	29%	16
Most of The Time	34%	19
Sometimes	25%	14
No - Never	4%	2
Client's Responsibility	5%	3

\*4% missing

### 3 Publishing Research

Figure 6 following indicates that a high percentage of respondents use a formal report to publicise their results (82%). In addition, over fifty per cent use the web (57%) and over fifty per cent also issue a press release (55%). Other methods identified by respondents included holding a public meeting or conference and the use of mailshots.

Figure 6: Method Used to Publicise Results



### Management

Table 4 below indicates that around one third (34%) of Science Shops are managed by a group which includes all the science shop staff. Only one Science Shop workers. Only one Science Shop indicated that their management consisted of a group that did not include science shop workers.

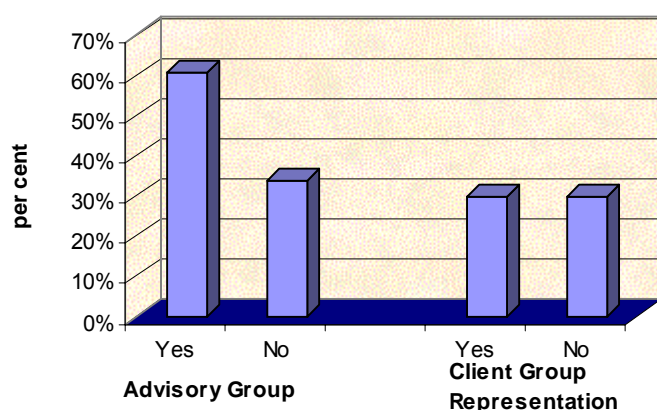
Table 4: Management of Science Shop

	Percentage	N
Management Group - not including Science Shop workers	2%	1
Management Group - including Science Shop workers	29%	16
All Science Shop Staff	34%	19
Small Group of Science Shop Staff	20%	11
None of these	11%	6

\*5% missing

Figure 7 following shows that 61% of Science Shops do have an advisory group, but only 30% of these advisory groups have community representation.

Figure 7: Advisory Groups and Representation



#### Evaluation - Who, Why and What ?

Table 5 following indicates that 23 out of the 56 Science Shops (41%) responded that they have been externally evaluated.

Table 5: External Evaluation of Science Shop

	Percentage	N
<b>Yes</b>	41%	23
<b>No</b>	57%	32

\*2% missing

#### (i) Who Evaluated ?

A wide range of groups/individuals carry out the evaluations. These are outlined in Table 6.

Table 6: Who Conducted the Evaluation

<b>Evaluator</b>	<b>Percentage</b>	<b>N</b>
Consultant	13%	7
Centre for Policy & Management	4%	2
Clients	2%	1
Other University	11%	6
Commission of VE	2%	1
Government	5%	3
Own University	4%	2

*(ii) Why Evaluate ?*

Table 7 below outlines the reasons why an evaluation was carried out. The most likely reason for an evaluation mentioned was for funding purposes (n=9 respondents). The table also shows that 5 out of the 23 respondents said that the evaluation was carried out in order to gain general progress or feedback, and another 4 respondents suggested that it was to facilitate change in the Science Shop.

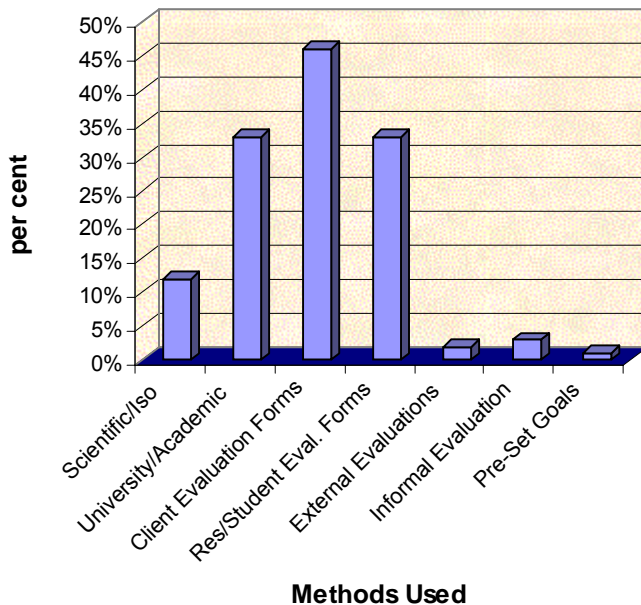
Table 7: Why Evaluation was Conducted

<b>Reason</b>	<b>Percentage</b>	<b>N</b>
Get Client Perspective	4%	2
Enable/Advise Change	7%	4
Funding Requirement	16%	9
General Progress/Evaluation	9%	5
Competition/Contest	2%	1
Find out How we Operate	2%	1

*(iii) Evaluation Methods Used*

The most common method of Science Shop self evaluation was the use of evaluation forms with clients (46%). One third of science shops also use student/researcher evaluation forms (33%) and another third of respondents evaluate projects against university or academic criteria (33%). Only 12% indicated that they evaluate their projects against standard scientific or ISO criteria (See Figure 8).

Figure 8: Evaluation Methods



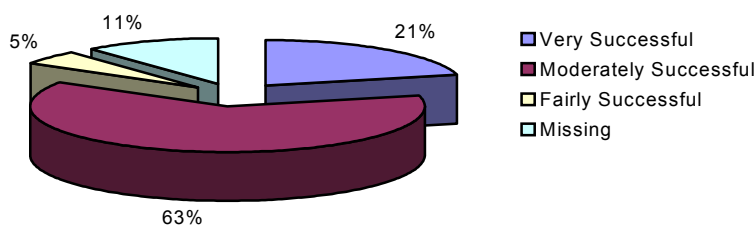
### A Measure of Success and Failure

Science Shops were asked to rate how successful they considered themselves to be. Figure 9 below illustrates how they rated their success.

In general, the majority of respondents consider themselves to be moderately successful (63%, n=35). While around one fifth (21%, n=12) indicate that they are very successful only a small number of respondents (n=3, 5%) believed themselves to be 'fairly unsuccessful'.

Respondents were also asked to list three things which have contributed to their overall success or failure. Some of the reasons cited for success were - accessibility, large press exposure, commitment of staff, uniqueness of service offered, professionalism and continual demand for the service. Reasons cited for lack of success included; not enough students, projects take too long for clients needs, no tradition of the university working with 'outsiders', lack of management commitment, invisibility and lack of funding (see Appendix 3).

Figure 9: Rated Success of Science Shop





### National Network<sup>1</sup>

Of the total respondents, 52% were members of a national network. With regard to the nationality of the respondents, most were members of the Dutch network.

### Staffing

Table 8 below outlines the percentage of all paid staff working in the Science Shops and includes a breakdown of male and female staff. Just over one fifth (21%, n=12) of Science Shops employ 2 members of staff; 21% include 2 female members of staff while 30% include one male member of staff.

In addition, while just over one third of Science Shops (34%, n=19) do have between 2 to 3 members of scientific/research staff, just under one third (32%, n=17) do not. Further, 25% have 1 to 2 members of staff employed in the role of research supervisor; 36% report employing one administrator; and, 46% admit to have no secretarial staff.

Table 8: Breakdown of Staffing

% Paid Staff		% Female Staff		% Male Staff	
Number of Staff	%	Number of Staff	%	Number of Staff	%
0	4	0	7	0	25
1	5	1	20	1	30
2	21	2	21	2	5
3	14	3	12	3	11
4	11	4	18	4	7
5	13	5	4	5	4
6	9	6	2	6	0
7	2	7	0	7	0
8	2	8	0	8	0
9	9	9	11	9	11
10+	11	10+	6	10+	8

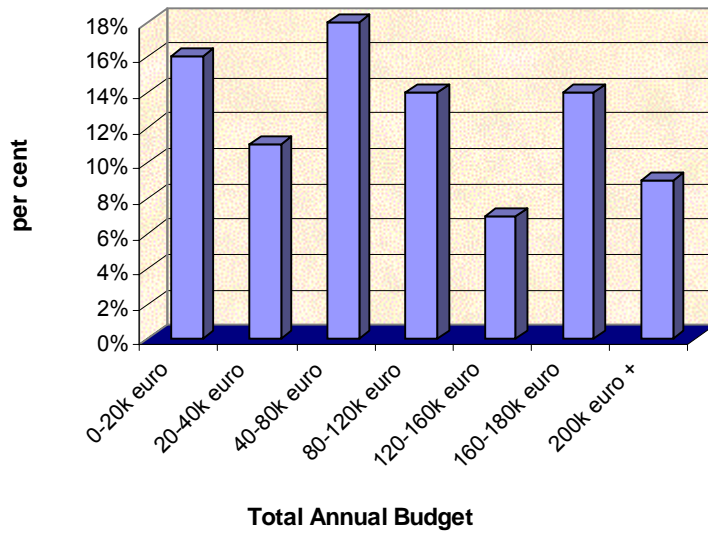
### Budget

Eighteen per cent of respondents have a budget of between 40 – 80k€<sup>2</sup>; 16% have a budget between 0 – 20k€; and 9% of those who responded said they had a budget of more than 200k€ (See Figure 10). The majority of respondents said the budget was used for a combination of research and administration (68%, n=38). Twelve per cent (n=7) use the budget for administration only, and 8% (n=5) for research only.

<sup>1</sup> The question on networking was not included on the USA/Canada questionnaire.

<sup>2</sup> The USA/Canada responses were converted from US or Canadian dollars to Euro (€).

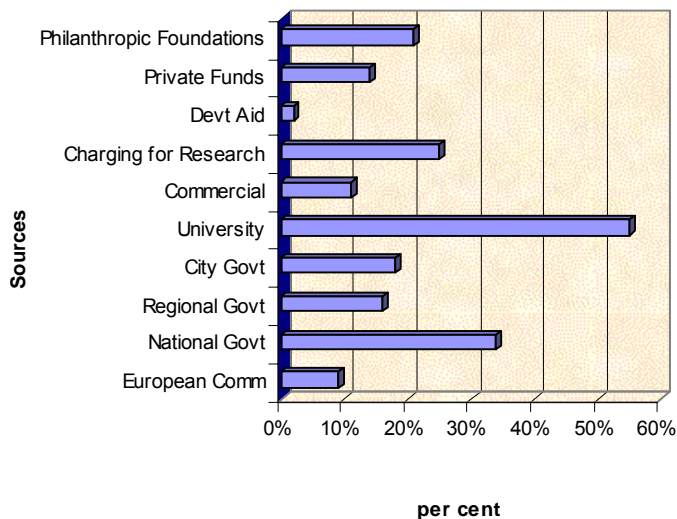
Figure 10: Total Annual Budget



### Funding

Figure 11 following represents the different sources of funding<sup>3</sup>. The most common source of funding was the university (55%), the national government (34%), and charging for research, (25%). The least likely source was development aid (2%).

Figure 11: Sources of Funding



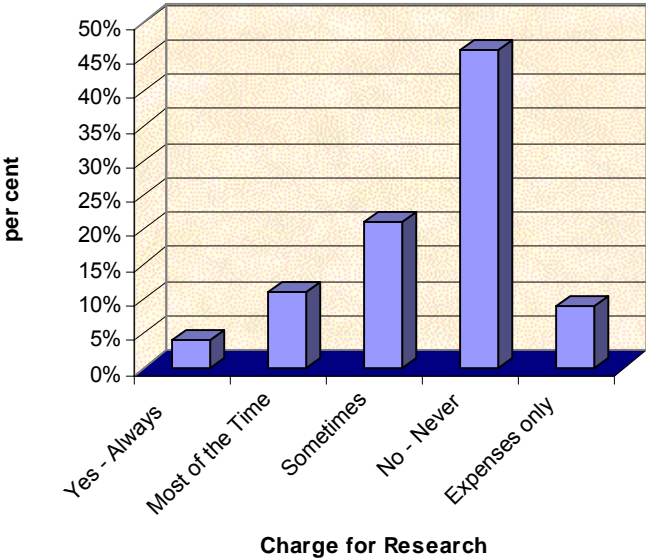
<sup>3</sup> The funding option European Community was not on the USA/Canadian questionnaire.

When asked what they would use additional funding for, 50% cited more staff as their main preference and additional research or projects (35%) as their second preference.

*Charge for Research*

Most Science Shops still operate for free. Figure 12 below outlines the charge for mediating research projects. Forty six per cent never charge for mediating research. In addition, those surveyed responded that 30% (n=17) never charge for carrying out research, while 10% (n=6) always charge. Thirty per cent of Science Shops use a combination of methods to decide what to charge (n=30) and 23% (n=13) will charge on the basis of what the group can afford.

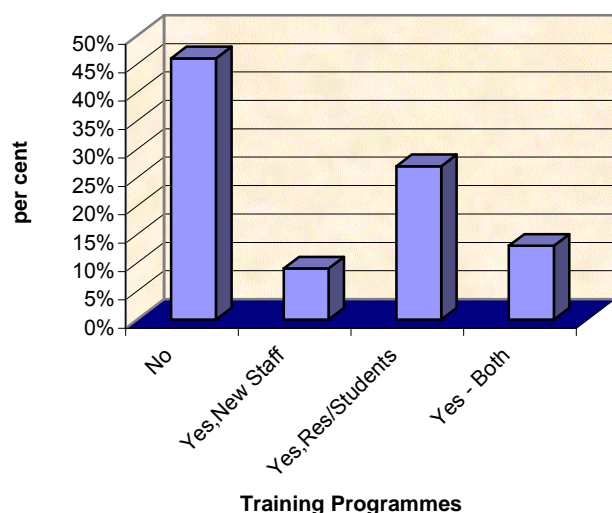
*Figure 12: Charge for Mediating Research Projects*



*Training*

While the majority (46%) of Science Shops do not have their own training programmes, 27% do have training courses for research staff and students and 9% have training programmes for new members of staff. (See Figure 13). Only around one fifth (21%, n=12) have knowledge of other training courses on offer; 66% (n=37) remain unaware of these training programmes.

Figure 13: Training Programmes



### Information

There is a wealth of written information about Science Shops. Table 9 below summarises the range of written material which is available. For example, 77% have information on their formation and operation, 40% about evaluation practice, and 30% have information on the student experience.

Table 9: Available Information

Written Material	Percentage
Formation of Science Shop	77%
Training for Workers	25%
Operation	71%
Evaluation	40%
Impact on University Curricula	14%
Impact on University Research	16%
Student Experience	30%

### University Relations

The majority of respondents, 84%, are attached to a university. Of those who are attached to a university, 44% are decentralised and 40% are centralised (See Figure 14).

Figure 14: University Relations

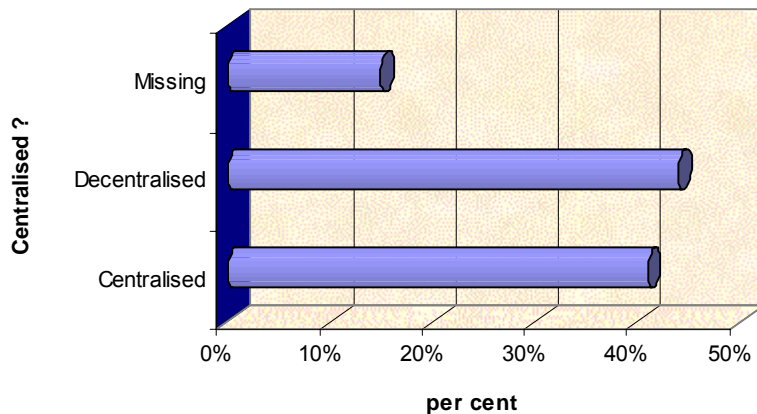
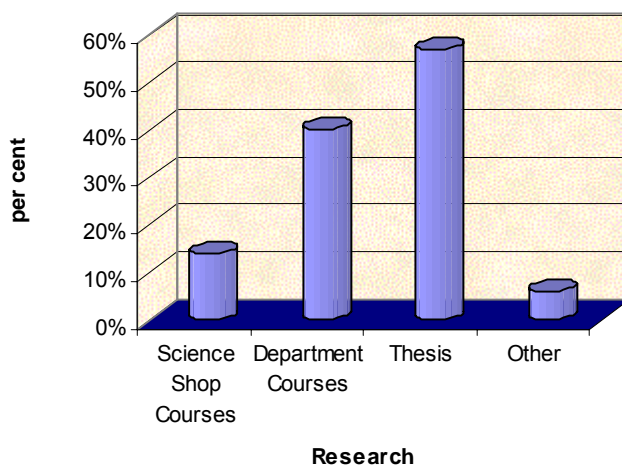


Figure 15 below shows that the majority (57%) of students who carry out research do so as part of their thesis. Forty per cent also carry out research on departmental courses and on Science Shop courses (14%). Another method of carrying out research was by internship (6%).

Figure 15: Carrying out Research



With regard to a question about research requests from community and voluntary groups, 67% of respondents say requests received do not fit into the existing curricula of the University. While 40% of respondents indicate that curricula have changed successfully to fit Science Shop projects, 15% indicate that curricula have changed unsuccessfully and 26% indicate that the curricula have not changed at all.

In addition, while a third (33%, n=18) of respondents indicate that Science Shop research and knowledge is not transferred to other courses or modules, 29% (n=16) say that this has been done successfully at their institution.

Over half of those surveyed (57%) believe that research methods have not changed at their University as a direct result of Science Shop projects. Around one fifth (21%) believe that

methods have changed. Finally, a very small percentage of those surveyed 2% (n=1) responded that they thought the research agenda had changed a great deal as a direct result of Science Shop projects.

## 3.2 The Interviews

The interviews are presented here as summaries, organised alphabetically according to country. In appendix 4 the full interviews are reproduced in German where appropriate in order to preserve the authentic information. Rough translations into English are available from the authors.

### Interview 1: Science shop Graz, Austria

Developed from non-university based to university based, operational for 10 years.

The original concept, a variation of the so-called "Dutch model", has not changed much during the past 10 years. The methods applied have remained broadly the same, as have the clients, which are still mostly non-profit organisations, community groups and schools.

Factors that have changed include:

- a) the sources of funding. Since 1996 the University of Graz is the main financier, before it used to be the Austrian Federal Ministry of Science;
- b) the staff increasingly conduct their own research projects;
- c) the topics shifted from Ecology to Sociology and Humanities;
- d) the way methods of communication. Requests increasingly arrive via Internet and e-mail;
- e) there has been a shift from knowledge transfer to research transfer.

There has been a vast turnover of staff as staff members frequently left for better paid or full time jobs. All the staff members of the science shop currently work part time.

The criteria for success used by this project were:

- number of requests answered;
- number of projects completed;
- projects have to meet scientific criteria;
- positive responses from students;
- increase in student numbers involved in projects;
- approval of the university;
- for the clients, the usefulness of the completed project.

Failure for staff would mean being unable to complete a project which had already started and/ or to have a dissatisfied client. For this science shop, word of mouth is an important means of disseminating information, followed by reports, leaflets and increasingly the Internet. The biggest obstacle for this science shop is that they have to re-apply for the funding each year, even though that funding is relatively secure.

Project staff feel that they don't have any competitors and that the service they offer is unique.

Their prestige has increased over the years, but this it took a long time. In their opinion it takes a long time to build up a successful working science shop and to be known about. It is very important to have enthusiastic staff and very necessary to have a successful start-up project and long-term financing.

## **Interview 2: Science shop Vienna, Austria**

Non-university based, operational for 10 years.

The science shop Vienna is one of three science shops in Austria which got seed funding from the Austrian Ministry of Science for a period of three years to implement the science shop idea in the region. During this period the science shop was able to act as an interface between certain social groups and scientific institutions. They formulated and translated the needs of social groups into research issues and increased dissemination of knowledge from researchers to society.

To meet Ministry standards, they had to try to link with one of the Universities in Vienna. The integration into the university could not be realised however, due to the reorganisation of the whole university system as well as significant reductions in the university's budget. Since then the mediation task has clearly declined due to reduced financial resources. There is instead a strong focus on designing and carrying out projects which are generated from requests from community groups. Their success is judged by the continued and urgent demand for their services, the needs of their clients and the relevance of their results. A major change in the work of this science shop has occurred through the possibilities offered by new media. Through the internet, an increasing number of people have gained access to information on various topics. Project staff feel that this also explains why the traditional knowledge transfer service is less sought-after.

The science shop Vienna does not have any core funding. The main financial support comes from public authorities. They are currently involved in researching topics such as non-profit organisations and the information society, women in politics, education and labour and the creation of a citizen-friendly information society.

Their staff presently consists of three permanently employed scientists. They can also draw on a larger circle of experts, to enlarge the team if necessary. They do not involve students in research projects, as this has proved to be inflexible.

This science shop considers itself to be successful, as acknowledged by clients, other researchers and sponsors. They have many competitors, inside and outside the university, all competing for the same public funds. The financial policies of the national government cause problems for many non-governmental organisations such as science shops. Word of mouth and the internet are of growing importance in terms of informing people about the project. Indirectly, staff feel that they have an influence on socio-political developments, in the sense that they raise topics and discuss them with opinion makers. They have also developed very good working relationships with many university departments. To start up a new science shop, staff on this project feel that the right people are very important. In their opinion, people who work in a science shop need to have a wide range of interests, should prefer interdisciplinary work and like to communicate with different groups of people, as well as being practically orientated. They must also be communicative and innovative.

This project stressed the importance of building up good contacts with the ministries and universities. Ideally, projects should look at other models and then to find their own direction. This science shop considers it important to be a member of both national and regional networks.

### **Interview 3: St Francis Xavier University, Antigonish, Canada**

University based, operational for 2 years.

Interview with Prof Tony Davis, director of Social Relationships for Sustainable Fisheries (SRSF), December 2000.

SRSF was established late in 1999 to help deal with the decline of fisheries in the Nova Scotia. SRSF is a partnership between St. Francis Xavier University and various community partners in the region, as part of the Community University Research Alliance. The project is based in Antigonish, Nova Scotia, but partners are situated throughout the whole province. The project is also part of a network with other universities in Atlanta and other parts of Canada. The aim is to enable small communities to engage in partnerships which will help to secure their future livelihoods. The project also hopes to help communities engage in the research process.

The organisation is mission and results oriented with a focus on the realistic uses of social research. The project is mainly funded by The Social Science and Humanities Research Council of Canada, with some support from the University. SRSF is managed by a steering committee. Decisions are made consensually within the project.

For clients (groups) economic regeneration in the area would be a primary goal. Success for the project would mean longer term opening up of the universities and skilling people in communities. Already fishing organisations are gradually assuming a more direct role in the management of marine ecosystems and resource harvesting. Success for the University means quality research being produced, an improved reputation and the ability to put something back into the community in which it is based.

The project hopes to establish sustained and collaborative working relationships between the University, community organisations, industry and other relevant bodies. SRSF will help community organisations build skills, including business and organisational skills and research skills, which will enable the groups to become more involved in the decision-making processes.

Further details on SRSF are available at: <http://www.stfx.ca/people/adavis/srsf>

### **Interview 4: Kubus, Berlin, Germany**

University based, operational for 13 years.

Kubus, a university based model, is 100% financed by the university of Berlin, has been operational for 13 years and focuses on environmental topics. Kubus works in the fields not covered by the university. The original idea to offer their service to the general public, also including individuals, has changed, due to the fact that during the past few years Berlin has developed a vast network of associations serving this purpose. Now, Kubus puts a strong focus on co-operation with local initiatives. Their position at the university has also changed. Kubus used to be under the management of the presiding chairman (Stabstelle). Now it is integrated in the "Zentralstelle", a facility within the university that deals with all knowledge transfer and educational matters.

For 7 years Kubus has run a "dissertation pool" (diplomarbeitenbörse), managed by a student, which consists of 60 to 100 topics. At the moment, they are trying to promote and market the completed diplomas or dissertations through internet. Apart from the "dissertation pool", Kubus offers a kind of catalogue, available on the internet, which focuses on the



environmental issues the University deals with. They are trying to improve public access to science through the internet.

Students are often involved in projects. These projects do not involve research but designing and conducting workshops and the preparation of written information. Kubus is well known and accepted within the environmental scene, but this is not the case within the University. The staff members are all known as professionals. Kubus is looked upon by students and staff as a stepping stone to a future career.

Due to the financial situation of the University, it has become more and more difficult to find partners inside the university, as a lot of pressure is put on research and teaching. Over the past few years this University has put less emphasis on interdisciplinarity and has tried to reduce the number of students. The financial strictures will not directly effect Kubus staff, as they have fixed contracts. This means that only their range of operation is affected by the cuts in budget. In their opinion, the University in general is no longer looking for partners outside the university. It seems that existing international connections are considered to be sufficient. Kubus has hardly any influence on the research agenda of the University. Occasionally, in co-operation with other University staff, a topic is placed within a department. The original intention to implement environmental topics in teaching and research is considered to have failed.

In terms of success, Kubus has become an institution which the population of the region can come to with research needs. They consider their failure to be their lack of contacts within the University. Their competitors appear in the field of scientific consultancy, such as engineering offices. But the special situation of Kubus, being 100 % financed by the university, allows Kubus to present themselves as an efficient enterprise, not primarily seeking profit. Kubus co-operates with these companies and can hand over the part of the project which can be paid for to them.

Kubus reacts to demand and creates its own fields of work, seeking out topics, finding suitable partners and serving as an initial point of contact in creating a co-operation with the university.

They consider that to establish a science shop, it is important to be embedded in the relevant scientific discipline and to have adequate financial security. It was also considered to be important to be a member of different networks and to be well known in these networks.

## **Interview 5: Community Research Exchange – Manchester Metropolitan University, UK**

University based, operational for 18 years.

Community Research Exchange was set up in 1983 (as Research Exchange) based on an agreement with the Community Studies course at Manchester Metropolitan University (MMU). Soon other departments joined in and triggered a development resulting in a cross-institutional organisation. Since 1989 they have been known as Community Exchange, an independent charity financed on a matched funding basis, 90 % provided by the four universities, the rest external money from Community Service Volunteers (CSV) and from The Granada Foundation. The majority of members on the Board of Trustees are from the university.

Due to increasing numbers of projects, additional external funding has become more important. In the past three years they have grown, became more proactive and developed into a well known service. They judge their success according to the number of projects placed (the number of students they match with projects has increased tenfold in the last three years) and the satisfaction of customers, which is evaluated through questionnaires. Their main challenge is to convince all the parties that it is a worthwhile thing to do. "The academics are suspicious of it because it creates unknowns for them, which they worry about. With the students, it is a matter of convincing them that it might be a bit more work doing a real live project, but it has huge benefits for them. The organisations are less difficult to convince".

They publicise their service to communities by publishing twice a year a directory which lists all projects. Word of mouth is also considered to be an effective means of informing the community of their activities. In addition, they attend all the careers fairs and various work experience events within the Universities. Students are also informed through presentations on courses. They also get an induction session and an information pack. The students work on a voluntary basis.

Community Exchange do not publicise the results of research projects; this remains the responsibility of the individual students or their tutors, and the organisations.

Competitors are considered to be other organisations who are providing work experience opportunities, for example the Work Experience Bank.

Community Exchange try to act on behalf of both the university and community groups.

In their opinion, science shop staff should be comfortable talking to the variety of different stakeholders including academics, students and voluntary sector organisations. Staff need to be self-motivated and to believe in the value of community empowerment.

In terms of establishing or developing a science shop, a network of contacts on both the university side and on the community side is considered to be essential. An international network would be helpful with raising funds. A training program for staff is considered to be useful, especially for new people taking over in existing science shops.

A science shop could provide community groups with more support if they knew what was available to them. In their opinion, the key thing would be to select key parts of the voluntary sector and carry out audit of what their needs are. An additional staff member could carry out an audit of each organisation, to find out about the way they work and what their research needs are. This could then create more opportunities for research development.

#### **Interview 6: Action Connection, Edinburgh University, UK**

University based, operational for 2 years.

Action Connection arose out of a sister project which was largely concerned with straight forward student volunteering. There was a desire to work with course related community based research. Action Connection acts as an interface between community groups and the university. They try to mediate between 3 quite distinct sets of agenda: the agenda of the organisation, the agenda of the specific student and the agenda of the University. In general they assign research questions received by community groups to students, who do dissertation projects based on the research topic.

Over the last 18 months, Action Connection has developed as a free standing element of Edinburgh University's work. They have been quite successful in terms of student numbers, with up to 30 students in the last academic year. Furthermore, there is an increasing degree of interest among the Universities' staff. They are at the moment working with Margaret College, Napier and Herriot Watt Universities).

Success is measured in a quantitative way (number of students, number of projects) and a qualitative way (profile of the project within academia and among community groups, the kind and the quality of the research the client receives and how the university is perceived in the wider community). The most successful projects to date have been where students have worked with groups from the ethnic minority communities (the Indian Dance Collective and a Sikh community group in the Leith area of Edinburgh).

What makes their work difficult is trying to explain what they are about to people who aren't necessarily very keyed into the ethos of a project like this.

It is considered important that the project results should meet the needs and objectives of the organisation as well as the academic requirements of the student and the department. To evaluate the projects, Action Connection staff use the Northern Ireland Office evaluation forms and the Voluntary Participation Unit's monitoring and evaluation model. In terms of public relations, they consider the internet as the most important medium of the future, as the

web will make research findings available to a wider group of people. At the moment they consider themselves to be more university based than community based.

Action Connection feels that the service it offers has a special value for community organisations. In some respects it is tailor made for organisations that require a certain level of research for their own purposes. The really major organisations providing research not only could not be afforded by community organisations, but would be totally inappropriate. In their opinion, they are doing low scale social engineering. They are building up the capacity of an organisation to actually look at itself in a more critical, reflective fashion and maybe encourage the organisation to think about its own future direction, growth and development. Their work might also alter the perspectives of students who are likely to be in positions of some power, whether it be political or otherwise, in another 20 years.

To start a community based research project, Action Connection staff stressed the importance of budgeting for the time involved. It was also considered necessary to be good at working with different people, to be interested in a range of subjects and be willing to take on unusual projects. Furthermore, a certain amount of blind optimism, a willingness to gamble and a massive amount of patience were all considered to be very helpful in establishing a project of this nature.

### **Interview 7: Science shop History, Groningen, The Netherlands**

University based, operational for 17 years.

This science shop for history is quite unique within the science shop movement. This science shop, a university based model, was founded in 1984 by students. Over the years, the science shop developed from a small organisation, not accepted by the faculty of arts, to a well organised, economically successful organisation, accepted by the university and run by professional staff.

The following factors have contributed to the changes in the organisation:

- a) The science shop is now run by a professional scientific staff – 7 people (all historians), and involve students on a voluntary basis. The students are responsible for the non-profit part, the mediation.
- b) There are attempts ongoing to reach a situation of financial independence from the university, without loosening the ties to the university too much. Investigations are ongoing on the possibility of forming a limited company.
- c) They developed a very strong commercial arm but based on general science shop principles.
- d) They became more and more project oriented (with many projects paid for by the clients).
- e) They have a very clear focus on six main themes, with the expertise developed within the staff.

This science shop offers its services to commercial enterprises, the local government and voluntary groups. To measure success is relatively easy for this project, as there are deliverables such as books, videos and CD-ROMs. When they are organising an exhibition in a museum, visitors are recorded and the reactions of the visitors are also indicators for success.

Their main obstacles are the overwhelming bureaucracy of the university and a society that is not really convinced that you should have to pay for historical research. To attract new projects, word of mouth is of great importance for them. Also being a member of networks generates new projects. The science shop for history staff always do an evaluation, depending on the kind of the project. As well as the traditional scientific working methods including literature research, they use oral history and archive research. Normally the fact that they are part of the university is a guarantee of high quality and a reflection that scientific standards are applied. They also always try to obtain an independent opinion about the work.

In the Netherlands there are 10 offices with freelance historians, also doing historical research. The competition is not as fierce as one might would presume however, as the different teams have developed their own specific areas of expertise. In their opinion people who work in science shops have to be good communicators, be very creative and flexible, and need the ability to think ahead.

## 4 Quality assessment and benchmarking

At the conference Living Knowledge (January 25 – 27, 2001, Leuven) a workshop was organised about the need and method of quality assessment and quality control for science shops. Discussions and results from this workshop are presented in this chapter.

### 4.1 Quality assessment and quality control

It is difficult to consider success and failure within the science shop movement without also considering the issue of standards in general and how such things can be measured. Quality assessment and bench marking are ways of measuring quality standards, standardisation, categories, competitors.

Quality assessment and bench marking has not been a general topic for discussion between science shops, but warrants some analysis in the light of current discussions.

Which factors should we take into consideration that will enable us to judge the quality of the work performed by science shops? Several boundary conditions have to be considered in advance, such as the political, economical, cultural and social background of the science shops. We also have to consider the diversity of science shops, the different themes, topics they are working on, areas they are working in, the different methods they apply. A chemistry science shop can not really be compared with a science shop working on social topics. We can not choose the same parameters to measure the quality of the work of all science shops. Some of the following statements are summarised from interviews conducted within the SCIPAS project.

- For quality assessment of science shops not only scientific standards are applied, but in addition the understanding and evaluation by the clients are considered. For example, a high quality standard combines a high level dissertation measured by scientific standards, a well presented project report and a satisfied client (interview 1 Graz, Appendix 4).
- We are applying scientific standards. It is very important to translate the scientific results to a level that can be understood by the general public (interview 2 Vienna, Appendix 4).
- Success requires a combination of theory and practise and an interdisciplinary context. Quality assessment is difficult for the particular science shop in which few staff members discuss specific problems on topics which are frequently unrelated (interview 4 Berlin, Appendix 4).
- Normally we say to our customers, that we are part of the university, that is a warranty for high quality. We apply scientific standards. When publishing a book we ask for a critical reading by a specific expert from the faculty. Thus we always try to obtain an independent opinion about our work (interview 7, Groningen, Appendix 4).
- Projects should be conducted within a reasonable time for practical application.
- The results have to be presented in a language which is easy to understand for the general reader.  
This means sometimes there is a need for two different reports, one for the clients and one for an academic audience (especially if the science shop is attached to a university)
- The results have to be applicable for our clients. This represents the possibly most important measure for quality assessment.
- The style and method of the research should be collaborative including the clients.

## 4.2 Benchmark and benchmarking

We will introduce the term benchmarking by two examples derived from the stock market and computers.

First, if you are a shareholder or stockholder you are familiar with the term benchmark. That is a standard, an index, a value composed of many quotations that sets a standard, against which the other shares or stock quotations are measured. A benchmark is set up by the particular funds or bond.

A benchmark also has its own quotation. Its value can be stated in percent, euro, dollar or any other currency. A benchmark can fall or rise. There are many different benchmarks like an European benchmark, an international benchmark or branch specific benchmarks. The performance of my share or stock may follow more or less closely the benchmark. If my share or stock is above the benchmark then it has a very good performance in terms of more money. If it is below then I am going to lose money.

Benchmarking means to measure the performance of my share or stock against the benchmark.

Second, in the world of computers, benchmarks measure different aspects of performance of a processor or system. While no single numerical measurement can completely describe the performance of a complex device like a microprocessor or a personal computer, benchmarks can be useful tools for comparing different components and systems. The only accurate way to measure the performance of your system however is to test the software applications you use on your hardware.

For example when you are purchasing a computer for mainly data management or desktop publication you will refer to a different benchmark tests for each application. Benchmarks can be divided into two kinds component and system. Component benchmarks measure the performance of specific parts such as the scientific product (the hard disc drive of a computer) or the interaction between scientist and client (the screen of your computer system). In contrast system benchmarks measure the performance of the entire system such as the evaluation of a project from all perspectives relevant for the science shop (the performance of the entire computer system). In either case the performance you see in day to day use will almost certainly vary from benchmark performance. A good benchmark test is highly representative for your day to day use. Benchmarks are, at most, only one kind of information that you may use during the purchasing process.

*Can benchmarks be applied for science shops?*

In the context of science shops benchmarking may be useful to clarify the distinction between us and other organisations we consider to be our competitors. Specific benchmarks must be related to methods applied, working areas, scientific subject areas, special services offered that distinguish a science shop from its competitors.

- How could benchmarking work for science shops?
- Which factors do we have to take into consideration?

Clearly, different benchmarks have to be defined for different models of science shops. (university based, non-university based, mixed ones).

Different approaches must take into account the flexibility of science shops which enable special adjustments to regional, social, cultural or economical requirements. For example evaluation of a science shop will be different in the far east compared to central Europe. As science shops are often established in niches, in terms of topics they are working on and clients they are dealing with, we have to be very careful not to limit their possibilities by applying a benchmark that can only be true for a minority.

A bench mark makes only sense in a context where performance is measurable, can be quantified, expressed in numbers and presented in tables or diagrams. Which works very good with money, maybe already more complex with computer systems but will it work for science shops.

How can one quantify the social impact of science shops? Possibly benchmarking for science shops will have to emphasise qualitative rather than quantitative aspects for evaluation.

The following reflections are based on a workshop conducted by the Institute FBI at the international conference "Living Knowledge – building partnerships for public access to research" in Leuven (Belgium), January 25 – 27, 2001" Based on the introduction the workshop leader prepared a couple of questions to work on. Depending on the number of participants there had been three to four working groups, each one dealing with one to two specific questions. After half an hour the speakers of each working group presented the results and gave room to some general discussions on the findings.

#### *Questions:*

1. Talking about quality assessment which factors do have to take into consideration?  
What are the parameters, the criteria for quality control?
2. Is the term benchmark useful for us?  
Do we need benchmarking and which benefits can be gained?
3. Who needs benchmarking?
4. Is it useful to define specific benchmarks ( for components - projects and the system - the science shop)?

#### *Results:*

The following statements summarise the results derived by the working groups and the general discussions at the international conference "Living Knowledge – building partnerships for public access to research" in Leuven, January 25-27, 2001. They are a basis to build on, to continue the discussions on this crucial and important topic for the future development of the science shops and the developing international network.

1. Talking about quality assessment which factors do we have to take into consideration?  
What are the parameters, the criteria for quality control?

There are four dimensions of quality:

- scientific quality which is measured internationally
- educational quality
- social quality (community impact and for the civil society)
- process quality which can be divided again in: communication and time planing. What can we learn from the process? What can be improved? Effectiveness of the work, joy of doing the work, good communications.

The balance on where to focus can differ according to the project.

- Selected indicators: different levels, different models, students, clients, founders.
2. a) Is the term benchmark useful for us?
    - The term benchmarks is difficult to handle, as it implies you have an average, which is just not true for the science shops.
    - A benchmark is an indicator, a standard ,a value. Maybe those terms are easier to understand. For example the amount of processed questions, conducted projects could

be a benchmark, which has to be related to the resources available as: time, money, staff.

- Before defining one or several benchmarks the mission and the goals of the science shops must be clear. One must also take into consideration that there is not only one science shop model but several different ones. We also have to find out the common things all science shops can relate to.
2. b) Do we need benchmarking and which benefits can be gained?
    - Yes, it is useful for professionalisation (of methods, output, the organisation), funding, networking, sharing experiences, student and staff exchange will be easier if you share standards.
    - No, it is not useful as there is a danger of excluding initiatives and it is very time consuming. Comparison among each other makes no sense. Cross reviewing might be a possibility instead of benchmarking.
    - Complications can occur considering the cultural fit and trust building. the benchmarks have to be updated regularly.
    - The quantity of the output might also be used, compared to money, time, staff etc. (in order to compare each other).
  3. Who needs benchmarking?
    - Benchmarks are needed for university based science shops, because you can show the university you are productive.
    - Science shops need benchmarks if they are accountable to the host institution.
  3. b) Is it useful to define specific benchmarks (for projects and systems (the science shop))?
    - Science shops should demonstrate traditional research outputs and also additional benefits.

Benefits could include (concrete outputs):

- projects: reports to clients, popular media, advice and action, consultancy
- academic papers: including articles, books, essays and term papers,
- thesis project and (or systemic): internships and work experience, contacts for students
- interdisciplinary cross fertilization, access to research, efficiency, flexibility

A division could be made in an internal use of a benchmark (to improve the work performed by a science shop. but it should not be exclusive) and an external use of a benchmark (to compare the science shop against the mainstream).

We should be aware of the fact, that science shops should work for the clients and not build up an internal competition. It is more important to see the special quality of a science shop. The evaluation of the clients has to be considered.

*Questions raised:*

Will the evaluation be carried out internally or externally?

How will the benchmarks be used?

What will be compared?

Do we need standards defining acceptability?



Table 2: Quality assessments and benchmarking: (Sclove, 2001)

Level	Audience	sample, criteria, benchmarks (incl. bar graphs and pie charts)
project	individual science shop (internal) clients	cost/project, duration person-hours (students, staff, professor) impact(s) publication media client satisfaction professional development (student, professor) citizen and civic development (student, client, professor)
science shop	individual science shop (internal) clients host institution local media local authorities	annual budget staff-hour, student-hour, range of professors annual budget of projects/requests, of students, of diversity of clients average cost/project, average duration/project range of topics influence on courses, university research publications, media , programs impact courses taught and students
national science shop system	founders policymakers media high-level research administrators	national science shop budget (including projects, students, faculties, diversity of clients) and international comparisons. cost efficiency, cost/project. impacts, publications, media, involvement women and minorities in science. strong relations in civil society benchmark/compare all with national mainstream and R&D budgets. compare science shops budgets with national military budgets
international science shop system	high level research administrators founders policymakers media  individual science shop ( value added in network)	global science shop budget (including projects, students, faculties, diversity of clients) benchmark/compare all with global mainstream and R&D budgets. compare science shops budgets with global military budgets.  new science shops, training assistance to vulnerable science shops fundraising, lobbying, transnational project collaboration, database quality, media success, support individual science shop, outreach

*Questions:*

- Who to develop and implement these measures?
- How to pay for this?
- Who disseminates (including in very high profile and mainstream senses) and publicises these?
- Is a SWOT analysis useful (Appendix 5)?

## **5 Operational options**

### **5.1 Science Shops – the models**

In general there is a distinction between two main models of science shops

#### **5.1.2 University based science shops**

These science shops follow the Dutch model. Within the Dutch model, an important separation can be made between centralised science shop offices, which mediate research across the whole university, and faculty specific science shop offices, which also do mediation, but only within the faculty in which they are based. The latter often also carry out research in-house. The specialised faculty offices have an added value for the students of the faculty, as they can offer them additional expert advice. The research in Dutch model science shops is in general done for the community, without much participation of clients in the research process itself. About 75% of US Community-Based Research Centres are also hosted by Universities. These centres differ from the Dutch model in that there tends to be greater participation of community members in the research process and in the internal policymaking. 'Dutch model science shops at universities do have an advisory board, but there is a trend in which these have less and less community members aboard (currently, only one third of these advisory boards have community representation)' (Mulder H, personal communication, 2001).

#### **5.1.3 Non-university based science shops**

This category can be further sub-divided into Non Governmental Organisations (NGOs) with university relations, NGOs without university relations and those NGOs which act as incubators for emerging science shops.

As well as the two basic options there is a mixed model which tries to combine the advantages of both options.

This particular system for categorising different types of science shops (see Table 10) has been drawn up by Henk Mulder et al.<sup>2</sup> and is based on analysis of the organisational embeddedness and institutional and administrative links of different science shops. Other indicators might give rise to a different categorisation. Another parameter, suggested by Dick Slove<sup>3</sup>, would be the extent of the science shops' commitment in theory and practice to participatory methods. For the purpose of the current study however we will focus on the organisational background of science shops as the basis for categorisation. To provide more detailed categorisations, further research is required.

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<sup>1</sup> Dr. Henk Mulder is co-ordinator of the science shop Chemistry in Groningen.

<sup>3</sup> Dick Slove is founder of the Loka Institute, USA

Table 10: Theoretical clustering of science shops (Mulder et al, 2001)

HOST:	University based			Mixed (University-based and independent)		Non-university based	
MODEL:	Dutch Model		US Model				
LOCALE:	Central Office	Faculty Office	CBR Centres	CURA (Community-University Research Alliance)	NGO as incubator	NGO (Univ. related)	NGO (Non-univ. related)
COUNTRIES:	Netherlands Denmark Germany Austria UK (Norway) USA/Canada Australia South-Korea Malaysia	Netherlands Denmark Romania South-Africa USA/Canada	USA Denmark (Canada)	Canada	Israel	(Germany) (Austria) USA	Germany Austria USA
MODE:	Mediation  Some: Internships	Research Mediation	Participatory action research (PAR)	Participatory research	Mediation	Mediation Research  Some: Participatory	Research  Some: Participatory

HOST = placement of science shop; MODEL = European/Dutch or US/Canadian concept; LOCALE = organisational unit of science shop; COUNTRIES = countries covered in report; MODE = methodology employed by science shop.

The two ends of the spectrum are, on one side a university based science shop, 100 % financed by the university, tied into the established philosophy of research, working within university curricula and focused on mediation tasks. The other end is a non-university based science shop, 100 % financed by external funds, without any guaranteed budget and with a strong focus on carrying out research in house. From one end to the other there is a trajectory, along which other options are aligned.

Research suggests that science shops which are embedded into regional universities are in general more likely to operate for a longer period of time than non-university based science shops. For university based science shops, the general running costs, such as infrastructure and salaries, are covered to some extent by the university (the contribution varies from 30 % to 100 %). As part of a respected, established system represented by the university, they can make use of the university's reputation and connections. The reservoir of knowledge carried by students and researchers is within easy reach. They can quite easily enlarge their working capacity by involving students. There are many ways to involve students in the work of a science shop. Students can collaborate on research projects either on a voluntary basis or on the basis of course credits for their work. A project for a science shop may be part of an existing course, or part of a course especially designed for a science shop project. For example, at the University of Groningen a course called 'Chemistry Shop Project' gained recognition in the faculty's curriculum as an optional course for chemistry students. In general however, students are involved in the work of a science shop by being assigned or choosing a subject from the science shops existing list on which to write his or her diploma thesis. Occasionally students are offered the possibility of a research-internship with a client organisation. (<http://www.fwn.rug.nl/chemshop/kopen.html>, science shop chemistry Groningen homepage)

NGO type science shops (which tend to be organised as non-profit organisations or community organisations) usually state that their work is not limited by university's focus on more fundamental scientific issues and that they are free to work on a wider range of social problems. They are also in a position to use alternative methods and engage in interdisciplinary research. Non-university based science shops tend also to have stronger contacts to similar organisations in their region. However, as independent organisations dependent on grant funding, they are also competing with similar organisations for the same funds. In Austria for example, the economic situation means that there are only a relatively small number of funds, with decreasing budgets, but a lot of organisations applying for funds. Staff spend a substantial part (up to 1/3) of their working time on fund raising and searching for sponsors. This situation often also pertains in university based science shops, which may only have a percentage of their core funding from their host institution and are required to fundraise for additional essential resources, including salaries. The success of science shop staff in overcoming economic limitations is based on idealism and their belief in the value of the work carried out by science shops.

Non university based science shops do contact local universities and their researchers but not on a regular basis. They have a reservoir of researchers on whom they can count when advice is needed. The science shop Vienna remarks: 'We can count upon a large circle of experts within easy reach to enlarge the team if necessary' (interview 2, Vienna, Appendix 4). Staff have established contacts with non-university based research facilities, with client groups, with public authorities and with funding bodies and charities. One outcome of these extensive contacts is the ability to perceive new topics which might develop into larger research projects. This skill also exists in university based science shops, but it is sometimes less obvious. Science shops can act as think tanks for social and environmental issues but groups can be more reluctant to contact university based science shops as they can feel unsure about whether a university values their concerns.

In general these science shops do not involve students in doing science shop work although occasionally they do have students engaging in practical training in the science shop on a voluntary basis. The Institute FBI (science shop Innsbruck) offered this opportunity to a student whose intention was to establish a science shop in South Tyrol.

### **5.1.3 Where do we find the different models?**

As shown in table 10, in most countries covered by the present survey the two basic models, the university based and the non-university based, co-exist. Of course there are states which favour one model, for example, the Netherlands or the US which favour the university based model. In Austria two science shops are university based and two are non-university based. In Germany the non-university based system is favoured. In the UK, while science shops are based in and have the support of universities, their resources often have to be found from sources external to the universities. Special forms are present in Canada and Israel. In Canada, Community University Research Alliances (CURA) are co-operative structures set up and governed by community and university together; they are funded by the Canadian government through one of the national research councils to do research in areas of mutual interest. In Israel, the Haim Zippori Center, an NGO, acts as an incubator to demonstrate the viability of science shop projects in Israel, after which another host institution should take over and develop the activities.

Different conditions can determine which model of science shop will be favoured in a particular country: the political and socio-economic situation in general can have an impact, as can the existence of other examples of this kind of work. The possibilities offered by the university, and whether the university is already engaged in this type of activity can influence decisions. Specific limitations set by funding agencies on accepting proposals only from non-

university based organisations may also be relevant. Finally, the specific personal connections of the representatives who are trying to establish a science can have a critical influence on the model of science shop which is established.

## 5.2 Science shops – the process

1. The science shop staff receive a request from a client group.
2. The client group and staff map the problem.
3. The staff formulate a related (scientific) research question.
4. Depending on the question, the answer may be provided within a short time scale (by combining and adapting available knowledge). Alternatively, the question generates a new research project. A student or a researcher (acting as (co) supervisor) is asked to answer the question or design and conduct a research project (for example in the form of a diploma thesis). One trend observed during the past few years is staff members themselves answering questions or designing and conducting research projects. Client groups may also be involved in research projects as active partners. A research agreement is negotiated and, in some cases, a research contract is signed. (<http://www.livjm.ac.uk/interchange/newuser.htm>, homepage Interchange Liverpool).
5. During the research process, science shop staff maintain communication with the client group, to ensure that the focus is still on the original request of the client group, and to make adjustments if necessary. Depending on the duration of the project, there may be one or two meetings between science shop staff, client group and researcher.
6. After the completion of the project, science shop staff ensure that the client receives and understands the findings and assists with practical presentation and publication of results.
7. Staff may also help the client group to implement the results and formulate follow-up actions.
8. After completion, staff carry out an evaluation of the project. This way they obtain feedback from the customers and information on the impact of their own work (e.g. the applicability of the results, if and to what extent the problem could be resolved, improvements that could be achieved on the basis of the project outcome).
9. The science shop may also make an inventory of follow-up research or research-topics. (Mulder, 2001; <http://www.hssfc.ca/Prog/VanGent.html>, Report on the Dutch Science shops, Van Gent, 1996)

## 5.3 Science Shops – the benefits

### 5.3.1 Universities

#### *Students*

A unique learning and practical experience is offered to students by providing the opportunity to work on science shop projects in their curriculum, with regular staff supervision.

- Students can apply their academic knowledge to a real life situation.
- They will develop key skills as well as academic competence.
- Students will develop their personal skills and strategies for life long learning through positive action in their local community.
- They gain confidence and self-esteem.
- It creates new career opportunities and alternative career paths.
- Students will get the opportunity to establish contacts and achieve relevant experience which will be an important element in their educational profile.

- Co-operation with external contacts adds new and interesting perspectives on project work. (<http://www.commex.man.ac.uk/commex>, Homepage, Community Exchange Manchester; <http://www.livjm.ac.uk/interchange>, Homepage, Interchange Liverpool)

#### *Scientific staff*

- Science shops help to communicate newly emerging issues to scientists. They formulate and translate the needs of society into research issues.
- Researchers can learn from the changes in society. University curricula and scientific research take up new socially relevant themes in a multidisciplinary way.
- By merging science shop subjects into regular university activities, science shops influence on research and education (for details see Hende and Jørgensen, 2001).
- 

#### *University as a whole*

- Universities clearly benefit from enforced co-operation with science shops as links to society, thus improving socially innovative research and education.
- Universities take responsibility for future developments in society by providing research for social groups. The practical relevance of this work adds to their reputation and opens up new opportunities for funding.

### **5.3.2 Civil society**

Science shops provide independent, participatory research support in response to concerns experienced by civil society. Groups who benefit from the service offered by science shops may include community and voluntary groups, non-governmental organisations, religious groups, environmental groups, individuals, schools, health authorities, small businesses and local or regional authorities.

General criteria were worked out at the beginning of the science shop movement by the science shop Amsterdam which served as guidelines for all science shops (Block-Künzler and Graf, 1993). Accordingly, science shops offer their service to all those groups who meet the following criteria:

- They have no or limited access to academic research institutions.
- They cannot afford to pay for the research (of can just pay a small amount, but never enough to cover the whole costs)
- They do not have purely commercial aims.
- They need the scientific results to support their aims, improve their situation or certain conditions of life.

Due to the changing needs of society and the development of the science shops, the science shops adapted the above mentioned criteria and some lost their importance. In the present study, the most frequently mentioned criteria for university based science shops were that the requests should be related to courses provided by the university, to scientific issues or to the expertise of the science shop staff. University based science shops did not usually accept requests from business and were very interested in the social relevance or social benefit of the expected results. For non-university based science shops, the most frequently mentioned criteria were the expected usefulness of results and the importance for society (full analysis see Appendix 3).

In general science shops are seen to be empowering social groups which are under-represented and/or disadvantaged in many ways and are therefore at risk of missing out on

the benefits of research and from the socio-political development in general. One of the major difficulties of these groups is to formulate some of their social needs into research issues. Science shops help to translate their problems into scientific questions and translate the scientific results in a way that can be understood by the general public. The results of the research process enable citizen groups to participate more effectively in democratic debate and help build a knowledgeable civil society.

Science shops also advance public understanding of science by confronting citizen groups directly with the possibilities and limitations of science

<http://www.phys.rug.nl/scienceshop.physics/ssst/intro.htm>, Homepage, science shop for Physics, Groningen).

### 5.3.3 Political authorities

Today political pressure is exerted on university based research and education to show practical relevance for society. Science shops are a unique means of achieving this important aim and thereby supplement the political top down approach to providing scientific knowledge with bottom up initiatives. In this way, the efforts of minority groups become part of a main-stream political process.

## 5.4 Science Shops – Successes

*What is a success*

Success can be defined and measured in various ways.

It may be defined as the completion of a project, or as based on the knowledge that the customers are satisfied with the product. 'Success can mean to keep the popularity reached, to be an institution the citizens can come to' (interview 4, Berlin, Appendix 4). 'Success means to get things moving' (interview 2, Vienna, Appendix 4)

In one way it may be easy to measure success. This is true for all projects where the results are deliverables such as books, videos, CD-ROMs, an exhibition or a course. In these cases sales figures, the number of visitors or the number of students are quantitative measures for success (interview 7, Groningen, Appendix 4). 'The university judges us on the number of students we are providing opportunities for; it is a quantitative thing'. (interview 5, Manchester, Appendix 4). 'Success is measured on the number of projects completed and requests answered' (interview 1, Graz, Appendix 4 and interview 6, Edinburgh, Appendix 4). In another sense, however, it is difficult to quantify success. This is true for projects where the direct results are recommendations for clients, where success would have to be measured indirectly as the outcome in the realm of the respective customers. This would require a second-level evaluation on the part of the client group to measure the benefits gained from the collaboration with the science shop. 'The more difficult way is to see whether the project work is satisfactory to the organisation they ( the students) work for, and we do that through questionnaires. It's more difficult, qualitative work and it is more difficult to monitor because there are so many different aspects you need to monitor" (interview 5, Manchester, Appendix 4).

According to the results of the questionnaire carried out through SCIPAS, the majority (63%) of the science shops considered themselves as moderately successful. 21 % indicated that they were very successful. Only 5% said they were fairly unsuccessful. University based science shops tend to relate their success to their embeddedness in the university (including good contacts with faculty members and students), whereas non university based science shops and community based research centres have a tendency to relate success to their contacts and relationships with community groups. Some other reasons cited for success

were accessibility, large press exposure, commitment and professionalism of staff, scientific quality, flexibility, interdisciplinarity, uniqueness of service offered and continued demand for the service. The non-university based science shops did not mention any reasons for failure (for full analysis see Appendix 3).

### *Conditions for success*

- In order to build up a science shop a democratic attitude in general is necessary. One science shop stated 'Democracy, so that people can protest' (Questionnaire Nr. 17).
- It is of importance to have support and the esteem of policy and decision makers on a local, national and European level.
- It is advantageous to have a strong connection to the university in the region. This does not necessarily mean to be part of the university, but to have some kind of contract with the university (interview 1, Graz, Appendix 4 and Questionnaire Nr. 28).
- In order to build up a successful science shop, it is necessary to have a long-term seed funding (3 – 5 years seems to be how long it takes to establish something new) to enable a science shop to be run with a minimum of 2 full-time staff. For new science shops, seed funding is essential to allow pilot projects to be carried out which will convince host institutions, scientists and clients of the value and potential of science shop work. Staff should not have to worry about fundraising and doing pilot projects simultaneously.
- Attempts have foundered on the bureaucracy required to obtain funds is (France and Czechoslovakia).
- It is helpful to have a basic budget to run a science shop, otherwise an essential part of the working time goes into fund raising (e.g. Institut FBI, Innsbruck).
- A high degree of independence - ideological, economical and structural is important. This enables a science shop to work on topics with a high critical potential. 'Independence - acceptable to all actors involved in societal issues' (Questionnaire Nr. 8)
- There needs to be an appropriate level of staffing. It is very difficult for a project to survive with only one member of staff.
- Good personal connections with local and national authorities are an advantage (interview 2, Vienna, Appendix 4 and Questionnaire Nr. 13).
- Staff members have to be excellent communicators, with the ability to work in a multidisciplinary setting.
- Science shops must have good relationships with and excellent connections to citizens groups (this is mentioned by nearly all North American and Canadian science shops in their responses to the survey) and universities and researchers ( this is referred to by most Dutch Science shops in their questionnaire responses).
- It is important to involve students in the work of science shops. 'It is important to have enthusiastic and committed students with good academic supervision to ensure quality of work' (Questionnaire Nr. 9)
- It is important to get support and expertise from established science shops (Questionnaires Nr. 22 and 25)

## **5.5 Science Shops – Failures**

### *What is a failure*

'A project fails. A feeling that a project that your mediated did not meet the expectations of the customer. And sometimes the customers tell you.' (interview 7, Groningen, Appendix 4). 'A failure is to be not all well known inside the university or outside, also having a not so good image.' (interview 4 Berlin, Appendix 4). 'We suffer from ongoing invisibility of our science shop in the faculty we belong to .' (Questionnaire Nr. 14)



The majority of the university based science shops mention a lack of students as an indicator of failure, followed by not enough science shop staff, low visibility and lack of full incorporation into the university. Less frequently mentioned were projects which took too long to complete for the clients, and lack of funding (although this was not as common a reason for a lack of success as might have been expected). (full analysis see Appendix 4). Other reasons given were:

'A completed project which does not meet the expectations of the customers,' 'The European model does not fit our culture', 'It's hard to get people's attention', 'The embedding in the university needs too much time', 'No expert for the project at the university' and 'political constraints'

### *Conditions for failure*

One example which illustrates a failed attempt to adopt the Dutch science shop model is the disappearance of the boutiques de sciences in France.

It has been suggested that the origins of the French science shop movement are related to the political situation in France in 1980 with the coming to power of the socialist party. Among scientists, trade unions, and business leaders, the election of the Socialists stimulated nation wide discussions on how to bring science into a closer relationship with society. At that time, people who had their roots in the 1968 student movement and who were now part of the establishment, regarded the Dutch science shop model as a way in which scientists could contribute to the new Socialist efforts.

Several science shops were initiated in the mid-eighties. The French science shops were run by co-ordinators paid by the government. The research was carried out by professors who were not paid for this work as they already received salaries from the university. The local governments mostly contributed to infrastructure, including office space. The French science shops did not use students, as conditions were different from the Dutch universities. After a few years, with limited funding and unpaid researchers, the French science shops ran into difficulties. Idealism worked well for a while, but did not provide a basis for long-term sustainability. The science shop researchers drifted back into their regular scientific work and the number of science shops decreased. One of the leading figures of the science shop movement founded an organisation for advancing public understanding of science and technology through exhibitions, publications and other activities. The former science shop survived as part of this larger organisation. Even though there is no longer an office within this organisation officially labelled a boutique de science, they still receive research requests and refer these to sympathetic university professors.

The main reasons why the French system flourished briefly and then subsided have not been investigated within this project. Some possible reasons for failure can however be drawn from the evidence. Each science shop had only one or two people behind it, instead of the broad movement to democratise science which had existed in the Netherlands. The lack of student participation created a greater distance between science shops and society. The funding was limited and distributed by the National Federation of Science Shops (an umbrella organisation). This led to competition and arguments among the science shops about the formula of distribution. Some French science shops also accepted requests from single persons and small businesses (at that time this decision was seen as a way to contribute to the health of economy and thus support the Socialists in power.) The decision to serve small businesses was made for political reasons and based on a certain ideology . This maybe another factor which led to instability, because the energy and scarce resources were dissipated and the broader social benefits were harder to demonstrate. A nation wide co-ordination and collaboration like in the Netherlands could not be achieved, so the benefits of a network and the power of a greater number of connected organisations could not be

utilised. Today, we only know of only one science shop in Strasbourg which is still operational (Slove, 1999).

Another example which might illustrate conditions that may lead to failure of a science shop is the science shop Linz, Austria, a non-university base science shop. Linz had always been considered to be the most successful science shop in Austria. Its' work was highly acclaimed by community groups as well as by local and national authorities and policy makers. It was considered to be *the* example of how to build up and successfully operate a non-university based science shop. In retrospect, the major factor for their sudden closure was the demise of the two leading figures. One became seriously ill and was hospitalised for more than six months, the other left his job after being offered another job in politics. The reputation of the science shop, its expertise, popularity and most of the connections to the various groups (including the politicians) were tied to those two people. After they left the science shop the remaining staff were not capable of keeping up the standards and contacts. Within a short period of time they had to close the science shop and there was never any attempt made to renew the science shop in Linz. Science shop staff moving into politics seems to be quite unique for Austria, as the same was true for the co-ordinators of the science shop Salzburg.

## **5.6 Competitors of science shops**

In general science shops work in a high competitive environment. They have competitors which are situated both inside and outside the university system.

### **5.6.1 Within the university**

Some universities, for example in Austria or Germany, have a special kind of mediation or transfer office called Außeninstitut or Zentralstelle. They act as an interface between the university and the civil society. In general, these mediation offices focus on communication from the university towards society. In most cases, they offer information on EU-programs or technology transfer between the university and the region. They may perform PR work for the university, such as editing and publishing a university newspaper. In rare cases, they may also work in the sense of public understanding and diffusion of knowledge. In this respect, they represent a one way street, a top down approach. These offices are traditionally strong competitors for science shops, although they do not fulfil the same tasks. The experience gained in Austria and Germany has indicated that it is very difficult to compete against a strong and already established transfer office. The transfer offices regard science shops as competitors instead of partners which could contribute to the communication from society towards the university. For this reason, two science shops in Austria failed to become integrated into the university system since additional funding was not available to support both science shops and knowledge transfer offices. (Institute FBI, Innsbruck, and interview 2, Vienna, Appendix 4). In contrast, Kubus in Berlin is a rare example of the successful integration of a science shop into a large mediation office, an example where the competition turned into partnership (interview 4, Berlin, Appendix 4 ).

As well as the above mentioned mediation or transfer offices, science shops are also in competition with various departments which work on similar topics and apply for the same funds (interview 2, Vienna, Appendix 4). This competition is not obvious as long as a science shop focuses on mediation tasks, but becomes visible as soon as independent research projects are carried out. The intensity of the competition is determined by many factors including the subject area, the established philosophy of research, the research interests, the university curricula and the funding situation.

## 5.6.2 Outside the university

Outside the university system science shops are in competition with independent research institutes. 'This competition we class as large, simply because the public funds (on a national and local level) for research are rather low budget ones and too many associations and groups apply for the same funds.' (interview 2, Vienna, Appendix 4). 'In the Netherlands there exist around 10 offices of freelance historians doing historical research. They are independent from the university and work 100% on a commercial basis. We know each other and on some occasions we meet each other. We also apply for the same projects, but it is not really a hard competition. They all have their own special expertise, which differ(entiates) them from each other (e.g. one is an expert on writing books...) Our advantage is that we are connected to the university – our academic background.' (interview 7, Groningen, Appendix 4) Although the science shop Groningen has to compete with quite many similar institutes the competition is not regarded as very serious. In this case, the potential competitors developed a special expertise which makes the service they offer unique. The science shop's connection with the university and academic background is regarded as an advantage. The fact that the Netherlands have a budget surplus resulting in prosperous funding bodies also plays an important role.

As well as the above mentioned examples, libraries, consultants, engineers and science and technology museums may all be competitors, depending on the specific science shop and its boundary conditions.(For further examples on similar initiatives to science shops see Appendix 6)

## 5.7 Impact of science shops on universities

### 5.7.1 University based science shops

There are indications that science shops situated at universities are successful in generating and focusing public demand for the resources and expertise of higher education. In doing this, they seem to have made a useful contribution to the standing of academic institutions and also to science communication. Science shops also benefit project and research work within the institutions, especially for students at undergraduate level by offering original and practical ideas for research.

The Science Shop at The Technical University of Denmark is a rare example of successful contribution to the revival of research at the university. This renewal is based on the knowledge needs of social groups which the university normally does not co-operate with. The Council of the University agreed that the Science Shop should act as an open door to the university. It was to be part of a new interdisciplinary centre, where such activities could be co-ordinated and multidisciplinary research and teaching in co-operation with experts and user groups could take place. The Interdisciplinary Centre as a part of the department also hosts the units for social sciences, working life, technology assessment and didactics. There would seem to be four main ways to achieve a more permanent impact on the research agendas of universities:

1. through organising research activities based on the requests for advice from user groups.
2. to organise a research programme. For example, the Science Shop at the Technical University of Denmark organised and co-ordinated a research programme within urban ecology and cleaner technology 1991 -1994 together with the department for urban planning. Altogether, 16 departments and research units took part in the program, which was applied for as a high-priority area at the university and was funded by the university for half a year of visiting professorship, three Ph.D. grants, two senior research grants and seed money for preparation of research projects.

3. to organise discussion groups in co-operation with departments at the university. A number of lectures given by researchers, NGOs and local authorities have been the basis for exchanging experiences and views and a number of student projects have been organised as a low-budget way of viewing aspects of the topics.
4. science shops can develop a course module on theories and methods for co-operation between experts and user groups. The Science Shop at the technical university of Denmark discovered a need for all students to learn how to co-operate with lay people in an interactive way by acknowledging the differences between scientific knowledge versus experience based knowledge and how to use both in a proactive and productive way. The fact that lay people sometimes expect an expert to be able to give definite answers can cause some problems. This course is now quite popular among the students at the university. (Jørgensen, 1999: Science Shops. An Introduction to the concept of Science Shops and to the Science Shop at The Technical University of Denmark, unpublished manuscript (For details see Hende and Jørgensen, 2001).

Another example which illustrates the influence of science shops on university research is the Tilburg model of large scale Ph.D. projects. Since May 1984, the Tilburg science shop has acted as a co-financier for long-term research projects (Ph.D. projects), which should make scientific research more relevant to the needs of society. For these projects, the university makes available 135.000 Euro on a yearly basis. In the first years after 1984 the Science shop allocated most money to projects with a duration of one to two years. Since the end of the eighties, most money is spent on the co-investment in Ph.D. projects. Some money also goes to 6-month preliminary investigations that should lead to proposals for Ph.D. projects. Today, all their Ph.D. projects are co-financed on a matched funding basis with partners including the departments of Tilburg university, some other institutes, municipalities and other partners outside the university. Themes that are covered include: multiculturalism, the role of environmental groups in environmental law, intercultural management and the sustainable use of water. 'Proposals for these projects are, on the one hand, made by the science shop to departments or, on the other hand, by members of departments of our university to the science shop. These proposals should be approved by the board of the science shop and by the board of the department that is involved in the project. All proposals should be relevant to society and of a high scientific level. All projects show that it is indeed possible to meet these conditions. Each Ph.D. project has its own steering committee, consisting of members from societal organisations such as environmental groups, civil servants of municipalities or departments, representatives of minority groups, etc. In this way Ph.D. researchers get their input from society and the members of these committees get the latest results of scientific research. These interactions turn out to be extremely useful and are highly valued by both parties. There is also some interaction between some of these Ph.D. projects and the research questions from groups and organisations in society that are mediated by the science shop and that are researched by Master students of our university. This kind of cross-fertilisation is beneficial to both our Ph.D. projects and to the research questions from groups and organisations in society.' (information on the Ph.D. projects made available by Tim van der Avoird, co-ordinator science shop Tilburg, personal communication, March 2001).

### **5.7.2 Non-university based science shops**

They would seem to have an impact but it is not quite as that of university based science shops. Through collaborating with university staff, they do have an indirect influence, as the researcher may be stimulated to work on a certain topic raised by a citizen group. Another example is the possibility of making a presentation at the university on a certain topic generated by a request of a social group. This may also encourage the use of this topic in the research agenda at the university (Institute FBI, Innsbruck).

## 5.8 Impact on social/economical/cultural or political development

Science shops have an influence on social, economic, cultural and political development which can be best demonstrated by examples. An extensive list of projects which illustrate these impacts is available in Appendix 7.

## 5.9 Changes over time

- There has been a shift from knowledge transfer, in terms of requests that can be answered in a relatively short time, to research transfer, that requires deeper investigation. Some reasons for this could be improved access to knowledge via the Internet and journals that specialise in the popularisation of science and research, as well as the increasing number of organisations that are experts on special topics.
- A change in topics has occurred, from a strong focus on environmental to social and cultural topics (interview 1, Graz, Appendix 4).
- Science shops have become more professional in approach and more specialised in terms of problem areas. Many of them also carry out independent research tasks.
- The university based science shops show a trend towards commercialisation, where wealthier clients are charged a certain amount of money (Homepage, science shop Chemistry, Groningen, <http://www.fwn.rug.nl/chemshop/kopen.html>)
- The non-university-based science shops developed differently compared to the university-based science shops. The shift from knowledge-transfer to research transfer occurred at an earlier stage.
- They started to carry out their own research projects earlier. They tend to be more commercialised and market oriented.
- Development over time may also affect the main structure of a science shop in the sense that a university based science shop turns into a non-university based science shop and vice versa.

The "Science shop History" in Groningen (Netherlands) represents a good example. Founded in 1984 by students as a university based model, it developed from a small organisation, not accepted by the faculty of arts, to a well organised, economically successful organisation, accepted by the university and run by professional staff. Now the university supports the science shop with an annual budget of around 70.000 Dutch Gulden. In addition, the office space is available at a very moderate rent. The turning point was the year 1994, when three factors jointly generated a new ongoing development. At that time, it seemed as if the university did not intend to spend more money on the science shop. As a result the science shop had to look for other funds. The traditional group of customers (e.g. trade unions) got more money because of the prosperous economic situation. This enabled them to pay for the research. There was also a motivation to ask them for money. The unemployment rate of historians was very high, but the general economy was prospering. The science shop became increasingly more project oriented and was able to earn money. This development still continues, with the future prospect of forming a limited company (interview 7, Groningen, Appendix 4).

The science shop Graz is an example of the opposite type of development. After an initial period seed financed by the Austrian ministry of science, the science shop Graz received a contract with the local university for basic support of knowledge transfer. During the initial period, they operated outside the university as environmental consultants. On the basis of the university contract they are now considered to be part of the university, with a increasing focus on mediation and communication. In the interview, a representative of the Science shop Graz explained another change, the increasing use of modern communication technologies. An increasing number of questions are received via e-mail, without much change in the type of clients. (interview 1 Graz, Appendix 4)

## 5.10 Networking

As a result of the length of time which science shops have been established in the Netherlands, combined with the advantage of being the inventor of the science shop concept, science shops in the Netherlands have gained a head start. Apart from the United States, where a similar approach is undertaken by the Loka Institute (building up the Community Based Research Network – CRN), only the Netherlands managed to build up a successful nationwide network of science shops with a general secretariat (Landelijk Secretariaat Wetenschapswinkels: <http://www.wetenschapswinkels.nl/>).

Attempts made in Germany (Arbeitsgemeinschaft der deutschen und österreichischen Wissenschaftsläden – AWILA: <http://www.wilabonn.de/frwilabn.htm>) and Austria during the '80s and '90s have to be looked upon as small scale and some have failed. The reasons for failure are:

- the lack of funds available for networking tasks;
- the failure of attempts to raise money to build up a sustainable network;
- underestimation of the time needed for networking;
- unclear responsibilities in maintaining the network;
- failure to convince potential members of the benefits a network can bring to the science shop.

Currently there is an attempt to renew the national network in Austria (Institute FBI, Innsbruck and science shop Vienna) and Great Britain (Interchange, Liverpool). As well as the national networks which already have an international connections, there are attempts being made to build up an international network in order to strengthen science shops and community-based research worldwide. 'It will facilitate the interaction among science shops themselves, their client groups and other strategic important groups in order to increase the quality, quantity, strength and visibility of the products and the individual organisations.' (H. Mulder, personal communication, 2001). This will help to improve public access to science as well as the public's participation in the creation of knowledge. It will also inform scientists, universities, research policymakers and funding bodies about the research needs of citizens. It will raise public awareness of science as well as science's awareness of the public.

## 5.11 Community Based Research in the United States

Community based research (CBR) is research that is conducted by, with or for communities. There are roughly 50 Community Research Centres (CRCs), spread across the States, who each year carry out 400 to 1200 research projects. Compared with the academic research and larger independent research institutions, the research projects carried out by CRCs are economical. About 75 % of the U.S. community research centres are located at universities, the others are independent non profit organisations. There are different strengths and drawbacks to community research centres based at universities compares to those that are independent non profit organisations. Some centres report that a university affiliation has enhanced their stature in the eyes of potential founders, provided overhead support, or eased recruitment of student interns. Potential drawbacks, however, include the possible requirement to pay high university overhead charges on research grants or becoming subject to inhibiting laws or regulations (e.g. Human Subjects Review Committee procedures that were never designed with participatory, community-based research in mind). While university administrators vary in their attitudes towards community-based research, indifference, scepticism or even resistance appear to be fairly common.' (Sclove et al. 1998, p. vii). What differentiates these centres from mainstream research is the fact that the research projects are to a great extent conducted with the participation of the community groups involved. The direct results are really needed to improve their quality of life. Community based research

centres empower disadvantaged communities and groups and help them to understand and address their own problems.

The CBR centres want to make research, science and technology responsive to democratically decided social and environmental concerns. They expand opportunities for grassroots groups, citizens and workers to become involved in vital facets of science and technology decision making. Communities are transforming research. Focused on solving real problems and redressing social inequities, community based research is a powerful tool that enables citizens to determine how and to what ends research will be conducted in their communities. What it produces is not only good science; often the results are more useful, action-oriented for the communities that participate. CBR can be especially valuable to disadvantaged or marginalised communities.

Some examples to illustrate the concrete changes that have occurred as a result of community-based research projects conducted by different organisations conducting community based research are outlined below:

- Energy conservation retrofits over 10,000 low-income housing units in Chicago.
- A moratorium on forest logging pending the conclusion of negotiations between Alaskan legislators and activists.
- One of the most thoroughly prepared legal cases in history of toxic waste litigation, two companies sued for wrongful death associated with water pollution, and an \$ 8 million out-of-court settlement with Woburn, Massachusetts plaintiffs.
- A requirement that scientists seek permission from a Native American community before including them as research subjects.
- Regular dialogue between two trade unions, a multiracial coalition of community groups and the management of the Sun Oil refinery in Philadelphia.
- Replacement of poisoned drinking water with a safe water line into a rural Kentucky community, and a legal judgement requiring establishment of an \$11 million community health fund.
- Implementation of a new system for providing more equitable policing service in the Jacksonville, Florida area.
- Creation of a new health program in Chicago for refugee women.
- Integration of neighbourhood-based projects into university course syllabi (Sclove et al. 1998, p. ii).

It is difficult to represent the extent of community based research in the United States precisely, because community based research is not really evaluated countrywide and there is limited documentation. Nevertheless a few of the organisations involved have systematic procedures for evaluating the quality and impact of their research. To encourage the development of community based research and to help with fundraising, more documentation and evaluation would be helpful.

In 1995 the Loka Institute started to develop the Community Research Network (CRN). It was launched as an organising institute to facilitate and provide technical assistance for community based research in the interest of social change. Today the network serves over 1,200 members from 35 different countries. Creating such a network opens up the possibility for co-ordinated efforts, and thus broadens the availability and efficiency of community-based research. The network of community based research centres wants to build an alternative research system, responsive to the concerns of community and citizens. 'A network that would make empowerment through mutual learning universally accessible.' (Sclove et al. 1998, p. I)

## 5.12 Differences between the US system and the EU system

The main difference between the *US community based research centres* and the *EU science shops* is the extent to which community members participate in the research. The CBR centres in general put a stronger emphasis on the participation of community groups. The Community Based Research Centres perform Participatory Action Research. The community groups are involved in the research process as actors, as full partners, they even may conduct parts of the research project (doing interviews, using a questionnaire). The tools (methods) needed to do so are supplied by the community based research centre. The groups get instruction on how to conduct an interview or to design a questionnaire. In this way community based research centres empower groups to help them understand and address their own problems. The participatory approach is based on the premise of meeting the responsibility for everyone's demands for contributions to constructive change. This could be claimed to guarantee democracy and equality in the relations between science and society. In the USA, client groups seem less concerned with whether a community based research centre is based at the university or not, than with whether they themselves can play as much of a role as they chose within every phase of the research process.

The *EU science shop system* does not involve community groups to this extent. Community groups are in general not conducting research by themselves. The strong US tradition 'to do it yourself', to get involved, to empower people, to solve the problems themselves, is not as obvious in the EU member states. In Europe the self-confidence seems less developed and the trust in scientists may be higher. Cultural traditions may be stronger, systems more settled and therefore less permeable. This all adds up to a greater distance and less communication between established groups and systems, like the relationship between university and civil society. The demand for participation during the research process is less openly expressed.

Non-university based shops in Europe have opportunities to integrate the clients to a greater extent, in fact some already do (e.g. Institute FBI). For the university based science shops this possibility is realistic only in a limited way. Looking forward to a more democratic and responsible society, participatory methods seem to be the future.

## 5.13 Science shops – a model with a promising future

A crucial point in the relationship between universities and civil society is the improvement in communications. There still exist barrier, gaps which need to be bridged. There are different expectations and ideas on each side and preconceptions which need to be analysed. There may also be certain reservations which need to be dealt with. There may be different goals on each side. The scientist is concerned about the scientific quality of the work, the community group needs results that improve their everyday life or help to find a solution for a certain problem. These goals may be hard to combine, in some cases it is impossible. There are compromises to be made. Science shop staff act as a link, as a translator between the university and civil society. The science shop creates an environment which supports successful collaboration by being aware of the areas where tension arises and nurturing and mediating partnerships. The strategies and communications skills developed by the science shop staff are useful tools to overcome these barriers. It takes time to build up a respectful relationship between experts (scientists) and lay-people (social groups). The co-ordinators expertise is needed to fulfil the demands of both partners, university and community. It is necessary to demonstrate what science and technology are capable of but this is only one side. One has to get the people involved, to make them part of the research process, to raise their interest in science. They have to feel that they are part of the system, that their acquired



knowledge is considered useful. This might also be one possible way to a turn around the situation which we are now facing, the declining public faith in science and technology.

When the science shop idea was created in the Netherlands in the early 1970s, they had the intention of opening up the universities and the knowledge there for people outside academia. They were part of a larger movement, including citizens, workers, environmentalists and feminists. These groups believed that citizens should participate in the benefits of science and technology and use them for their needs. Increasingly now the demand is for democracy and responsibility and the aim of science shops is to guide science in a sustainable and responsible direction. This is what science shops are pursuing.

## **6 Normative conclusions and policy recommendations**

### **6.1 Normative conclusions**

Science shops are an effective means of improving access to information. They also act as indicators of the issues which concern the most disadvantaged groups in our society. The impact of Science Shops would however be much greater if they existed in all member and future member states within the European Community.

Currently pressure exists for university based research and teaching to show practical relevance for society. Science shops are the unique means of achieving this important aim. They also ensure that external community research needs are reflected in academic research agendas and teaching programmes.

Science shops improve the communication between civil society organisations and the research and development system. They are uniquely positioned in having both scientific expertise and good relationships with social groups. This expertise could be used at a European or national level, where decisions are being made about the orientation of R&D policies or the focus of research strategies.

The scientists who have worked in science shops have over the years developed specific skills, which combine a multidisciplinary academic approach with the necessary social skills and contacts to represent community interests effectively within universities. Sharing this experience at a European level would create an even greater impact. This could be achieved through thematic networks, international seminars, exchange of results and methods etc.

Additional funding would help facilitate this process both at a national and international level. For policy makers in research and education, it should be relatively easy to allow students to take part in science shop projects as part of their curriculum - the students are willing. Furthermore, university budget allocation models could be adapted or increased to allow more room for this type of activity. Research policymakers could also learn what issues are of concern to citizens, through the topics dealt with by science shops.

Science Shops are an effective means of improving democratic access to science and knowledge. The issues raised through Science Shops are indicative of the scientific concerns of civil society organisations. Science Shops are therefore in a position of knowledge regarding the opinions and issues of interest to such groups. There is clearly a demand for the services offered by science shops to community organisations. Students are also interested in this type of work. Support at a national, European and international level would encourage support within institutions for this type of work, which would in turn contribute to creating socially relevant research agenda's.

### **6.2 Policy recommendations**

Science shops offer a good opportunity to increase public awareness and understanding of science. Optimising the available expertise within science shops and the dissemination of this expertise can strengthen this opportunity.

Some policy recommendations can be derived from the work presented in this report. We will focus these on policies regarding the operation of science shops – other policy recommendations are made in the other reports from the SCIPAS-project. To quote Dr. Rainer Gerold, Director Science and Society, Research Directorate General of the European Commission at the Living Knowledge conference: “Every science - and every society - needs a science shop” (Gerold, 2001).

Now how do we achieve this at the European level and how can build strong science shops?

- The EU should make a public declaration of support for science shops
- The EU should continue its support for the international science shop network
- The EU should provide financial support to aid the establishment of science shops in future member states of the EU
- The EU should provide direction to universities and research centres to support science shops
- Universities should support science shops within their institutions and support staff who engage in this type of work
- Universities should provide resources to encourage, establish and develop the work of science shops in their regions
- Universities should accept that community groups have a right to access the knowledge and information resources of their local university
- Universities should accept that issues of community concern should be reflected in academic research agendas
- The SCIPAS network should continue to engage in international co-operation
- The SCIPAS network should continue to support emerging science shops across the world
- The SCIPAS network should continue to identify models of good practice in this field, both from within and beyond universities
- The SCIPAS network should explicitly seek direct community representation and involvement in the network
- All partners (EU, Universities, SCIPAS network, community groups) should work together to identify appropriate resources for this work

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<http://www.commex.man.ac.uk/commex/com.html>  
<http://www.dtu.dk/its/vb/eng/abstract/>  
<http://www.dtu.dk/its/vb/eng/index.htm>  
<http://www.fee.de/WiLA>  
<http://www-gewi.kfunigraz.ac.at/wila/>  
<http://www2.infm.ulst.ac.uk/~nikel/scishop/>  
<http://www.livjm.ac.uk/interchance/>  
<http://www.loka.org/>  
<http://www.nananet.de/institut/wilanord/welcome.htm>  
<http://www.ou.dk/vbou/index1.html>  
<http://www.qub.ac.uk/scisho/>  
<http://www.uu.nl/wetenschapswinkels>  
<http://www.samf.ku.dk/vb/bund2.htm>  
[http://www.sbg.ac.at/was/was\\_exp/indxxxxx.htm](http://www.sbg.ac.at/was/was_exp/indxxxxx.htm)  
<http://www.sshrc.ca/>

[http://www.sv.uio.no/vitenskapsbutikken/vb\\_tekst/start/vbstart.html](http://www.sv.uio.no/vitenskapsbutikken/vb_tekst/start/vbstart.html)  
[http://www.uni-kassel.de/wiss\\_trVeranstaltungen/espoo99.html](http://www.uni-kassel.de/wiss_trVeranstaltungen/espoo99.html)  
[http://www.utoronto.ca/envstudy/about\\_esp.html](http://www.utoronto.ca/envstudy/about_esp.html)  
<http://www.uu.nl/onderdelen/wetenschapswinkels>  
<http://www.vb.auc.dk/english.htm>  
<http://www.vb.ruc.dk/hoved.htm>  
<http://www.wilabonn.de/frwilabn.htm>

## Appendix 1: SCIPAS questionnaire

### Study and Conference for Improving Public Access to Science

# Living Knowledge

Building partnerships for public access to research

---

Address:

ID Number:

*If any of the above details are incorrect please amend.*

---

Please take time to complete the questionnaire and return it in the enclosed self addressed envelope. It would be helpful to have your completed questionnaire returned to us by **Friday July 21<sup>st</sup> 2000**. Please fill in as many of the questions as you can.

Your responses are confidential. If you have any questions, please feel free to call Elizabeth Hendron at (0044) 02890-332620 or email [e.hendron@qub.ac.uk](mailto:e.hendron@qub.ac.uk) or Andrea Gnaiger at (0043) 512-580-629 or email [fbi@reflex.at](mailto:fbi@reflex.at).

---

#### **PLEASE INDICATE BELOW**

Would you be willing to be interviewed in more detail about your science shop? (please tick)

Yes  1

No  2

Would you prefer to be interviewed  
(please tick one only)

on the telephone  1  
in person  2  
via email  3  
further questionnaire  4

**Q1** In what year was your science shop founded? \_\_\_\_\_

**Q2** How many research requests did your science shop receive in 1999? \_\_\_\_\_

**Q3** How many research projects did your science shop complete in 1999? \_\_\_\_\_

**Q4** Who do you accept research requests from?  
(Please tick for yes. Leaving blank will indicate)  
that you DO NOT accept requests from this client group.)

community/voluntary groups	<input type="checkbox"/>
trade unions/labour org.	<input type="checkbox"/>
religious groups	<input type="checkbox"/>
environmental groups	<input type="checkbox"/>
political parties	<input type="checkbox"/>
community businesses	<input type="checkbox"/>
small businesses	<input type="checkbox"/>
individuals	<input type="checkbox"/>
local/regional authorities	<input type="checkbox"/>
police	<input type="checkbox"/>
schools/school pupils	<input type="checkbox"/>
health authorities	<input type="checkbox"/>
others	<input type="checkbox"/>

Specify what other groups \_\_\_\_\_

**Q5** Where are the research topics generated from?  
(please tick one only)

within the science shop	<input type="checkbox"/>	1
from groups	<input type="checkbox"/>	2
both	<input type="checkbox"/>	3

**Q6** What criteria, if any, do you use when judging whether to accept a research request?  
Continue on a separate sheet if necessary.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q7** Who carries out the research?  
(please tick all that apply)

science shop staff	<input type="checkbox"/>
students (for their course/diploma etc)	<input type="checkbox"/>
students (as volunteers)	<input type="checkbox"/>
subcontracted researchers (paid)	<input type="checkbox"/>
volunteers/researchers (unpaid)	<input type="checkbox"/>

**Q8** Who co-ordinates the research?  
(please tick one only)

the requesting group	<input type="checkbox"/>	1
a co-ordinator	<input type="checkbox"/>	2
scientific/academic supervisor	<input type="checkbox"/>	3
students	<input type="checkbox"/>	4

**Q9** Once a relationship has been established with a client group  
do they continue to approach the science shop for assistance?  
(please tick)

Yes  1 No  2

**Q10** Before research starts, is there discussion with the client group  
on the nature and process of the research?  
(please tick one only)

yes - always	<input type="checkbox"/>	1
most of the time	<input type="checkbox"/>	2
some of the time	<input type="checkbox"/>	3
no - never	<input type="checkbox"/>	4



- Q11** If yes, is this discussion initiated by the science shop or by client group? (please tick one only)
- science shop  1  
 client group  2  
 both  3
- Q12** Does the researcher meet with the client group during the course of the research? (please tick one only)
- yes - always  1  
 most of time  2  
 sometimes  3  
 no - never  4
- Q13** Do you have a follow up meeting with the client group once the research is completed? (please tick one only)
- yes - always  1  
 most of time  2  
 sometimes  3  
 no - never  4
- Q14** Do you use a research contract? (please tick one only)
- yes - always  1  
 most of time  2  
 sometimes  3  
 no - never  4
- Q15** Can your science shop usually complete the research projects in the expected/necessary time? (please tick one only)
- yes - always  1  
 most of time  2  
 sometimes  3  
 No - never  4

**Q16** Which of the following methods do you use to **attract** research requests and publicise your science shop? (please tick all that apply)

- |   |                          |                               |                          |
|---|--------------------------|-------------------------------|--------------------------|
| TV advertisements                         | <input type="checkbox"/> | radio advertisements          | <input type="checkbox"/> |
| newspaper/magazine/journal advertisements | <input type="checkbox"/> | produce own bulletin/magazine | <input type="checkbox"/> |
| leaflets/posters                          | <input type="checkbox"/> | website                       | <input type="checkbox"/> |
| involved in organised community Networks  | <input type="checkbox"/> | word-of-mouth                 | <input type="checkbox"/> |
| press releases/articles                   | <input type="checkbox"/> | public talks/events           | <input type="checkbox"/> |
| listed in resource books/publications     | <input type="checkbox"/> | do not use any method         | <input type="checkbox"/> |
| other                                     | <input type="checkbox"/> |                               |                          |
| Specify other publicity methods used      |                          |                               |                          |

**Q17** Do you release the results of completed research to the general public? (please tick one only)

yes - always  1  
 most of the time  2  
 sometimes  3  
 no - never  4  
 client's responsibility  5

**Q18** Which of the following methods do you use to publicise your results? (please tick all that apply)

report  1  
 journal article  2  
 press release  3  
 general brochure  4  
 website  5  
 don't publicise results  6  
 other method  7

Please specify what other method is used \_\_\_\_\_

---

**Q19** Overall, how is your science shop currently managed?  
 (please tick one only)

a management group that does not include the science shop workers  1  
 a management group that does include the science shop workers  2  
 by all the science shop staff  3  
 by a small group of science shop staff  4  
 none of these  5

**Q20** Does your science shop have an advisory group? Yes  1 No  2  
 (advice only - no decision making powers)

**Q21** If yes, does this advisory group have client group representation? Yes  1 No  2

**Q22** Has your science shop ever been externally evaluated? Yes  1 No  2  
 (please tick) If no, please go to Q25.

**Q23** Who carried out the evaluation?  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q24** Why was the evaluation carried out?  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q25** Does your science shop carry out any of the following?  
 (please tick all that apply)

evaluate projects against standard scientific/ISO criteria   
 evaluate projects against university/academic criteria   
 evaluation forms for client groups   
 evaluation forms for researchers/students   
 other

Specify other forms of evaluation \_\_\_\_\_  
 \_\_\_\_\_

**Q26** On the whole, would you say your science shop is (please tick one only)

very successful - all of our aims are achieved  1  
 moderately successful - most of our aims are achieved  2  
 fairly unsuccessful - few of aims are achieved  3  
 unsuccessful - none of our aims are achieved  4

**Q27** What three main things do you think have contributed to your overall success or failure?

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q28** Are you a member of any national network for science shop-type research? (please tick) Yes  1 No  2

If yes, what is the name of the network \_\_\_\_\_

**Q29** How many **paid staff** work at your science shop? Total   
 Number of female staff   
 Number of male staff   
 Total combined number of **paid hours** worked per week \_\_\_\_\_

**Q30** How many members of staff are (primarily) employed as: researchers/scientific staff (carry out practical work)   
 research supervisors (don't carry out practical work)   
 co-ordinators/administrators   
 secretarial staff

**Q31** What is your **total** annual budget including salary costs but excluding specific project costs? (please tick ONE only)

0 - 20,000 euro	<input type="checkbox"/> 1
20,000 - 40,000 euro	<input type="checkbox"/> 2
40,000 - 80,000 euro	<input type="checkbox"/> 3
80,000 - 120,000 euro	<input type="checkbox"/> 4
120,000 - 160,000 euro	<input type="checkbox"/> 5
160,000 - 200,000 euro	<input type="checkbox"/> 6
More than 200,000 euro	<input type="checkbox"/> 7

If more than 200,000 euro please specify how much \_\_\_\_\_  
 Currency \_\_\_\_\_

**Q32** What is this budget for? (please tick one only)

research/education projects	<input type="checkbox"/> 1
administration	<input type="checkbox"/> 2
both	<input type="checkbox"/> 3

**Q33** What are your sources of funding? (excluding specific project costs) (please tick all that apply)

European Community	<input type="checkbox"/>
National Government	<input type="checkbox"/>
Regional Government	<input type="checkbox"/>
City Government	<input type="checkbox"/>
University	<input type="checkbox"/>
Commercial/business sources	<input type="checkbox"/>
Charging for research	<input type="checkbox"/>
Development aid	<input type="checkbox"/>
Private funds	<input type="checkbox"/>
Philanthropic Foundations	<input type="checkbox"/>
Other	<input type="checkbox"/>

If other, please specify from who/where \_\_\_\_\_

**Q34** If you have a specific budget for research or other projects, how much does this amount to and what is the source of this funding? (please continue on a separate page if necessary).

AMOUNT	SOURCE

**Q35** If additional resources became available how would you use them? (please rank in order of preference 1 - 5/6 )

more staff	<input type="checkbox"/>
for research/projects	<input type="checkbox"/>
consumables	<input type="checkbox"/>
travel	<input type="checkbox"/>
general running costs	<input type="checkbox"/>
other	<input type="checkbox"/>

If other, please specify what you would use it for \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q36** Do you charge for mediating research projects? (please tick one only)

yes - always	<input type="checkbox"/>	1
most of the time	<input type="checkbox"/>	2
sometimes	<input type="checkbox"/>	3
no - never	<input type="checkbox"/>	4
expenses only	<input type="checkbox"/>	5

**Q37** Do you charge for doing research projects? (please tick one only)

yes - always	<input type="checkbox"/>	1
most of the time	<input type="checkbox"/>	2
sometimes	<input type="checkbox"/>	3
no - never	<input type="checkbox"/>	4
expenses only	<input type="checkbox"/>	5

**Q38** If yes, how do you decide what to charge? (please tick one only)

flat fee	<input type="checkbox"/>	1
charge per hour	<input type="checkbox"/>	2
charge per day	<input type="checkbox"/>	3
what the group can afford	<input type="checkbox"/>	4
university consultancy rate	<input type="checkbox"/>	5
combination of these	<input type="checkbox"/>	6
other	<input type="checkbox"/>	7
does not apply	<input type="checkbox"/>	8

If other, please specify how calculated \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q39** Does your organisation have training programs on community based research, management, project coordination or communication for new staff or researchers/students? (please tick one only)

no		<input type="checkbox"/> 1
yes, for new staff		<input type="checkbox"/> 2
yes, for researchers/students		<input type="checkbox"/> 3
yes for both		<input type="checkbox"/> 4

**Q40** Do you know of other organisations that have training programs as mentioned above for staff or researchers and students? (please tick)

Yes	<input type="checkbox"/> 1	No	<input type="checkbox"/> 2
-----	----------------------------	----	----------------------------

If yes, please list their name and the course(s) they organise \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q41** Do you have written information on any of the following subjects? (please tick all that apply)

the formation of your science shop	<input type="checkbox"/>
training for science shop workers	<input type="checkbox"/>
how your science shop operates	<input type="checkbox"/>
an evaluation of your science shop	<input type="checkbox"/>
impact of your science shop on your university curricula	<input type="checkbox"/>
impact of your science shop on research at your university	<input type="checkbox"/>
student experience of science shop research	<input type="checkbox"/>

**Q42** Is your science shop attached to/affiliated with a university/universities? (please tick)

Yes	<input type="checkbox"/> 1	No	<input type="checkbox"/> 2
-----	----------------------------	----	----------------------------

If yes, what university/universities \_\_\_\_\_

\_\_\_\_\_

**ONLY ANSWER THE FOLLOWING QUESTIONS IF YOU ANSWERED YES TO THE PREVIOUS QUESTION**

**Q43** Is your science shop centralised - works in all academic or subject areas (please tick one only)      decentralised - works only in one academic or subject area

	<input type="checkbox"/> 1
	<input type="checkbox"/> 2

**Q44** If students carry out science shop research as part of their course, please describe how. (please tick all that apply)

	courses given by science shop	<input type="checkbox"/>
	courses given by departments	<input type="checkbox"/>
	as thesis projects or similar	<input type="checkbox"/>
	other	<input type="checkbox"/>

if other, please specify how \_\_\_\_\_

\_\_\_\_\_

**Q45** Do all the research requests you get from community and voluntary groups fit into existing curricula in your University? (please tick)

Yes	<input type="checkbox"/> 1	No	<input type="checkbox"/> 2
-----	----------------------------	----	----------------------------

**Q46** Have the curricula at your university expanded or changed to accommodate science shop type projects? (please tick one only)

	yes - successfully	<input type="checkbox"/> 1
	yes - unsuccessfully	<input type="checkbox"/> 2
	no	<input type="checkbox"/> 3

If yes, (successful or unsuccessful) please give brief details \_\_\_\_\_

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---

- Q47** Has research and knowledge from science shop research been included in other courses or modules as topics? (please tick)
- |                      |                          |   |
|----------------------|--------------------------|---|
| yes - successfully   | <input type="checkbox"/> | 1 |
| yes - unsuccessfully | <input type="checkbox"/> | 2 |
| no                   | <input type="checkbox"/> | 3 |

If yes, (successful or unsuccessful) please give details \_\_\_\_\_

---

- Q48** How is experience from projects within a topic accumulated and carried on to new projects within that topic? (please tick all that apply)
- |   |                          |
|---|--------------------------|
| by the science shop                           | <input type="checkbox"/> |
| by researchers                                | <input type="checkbox"/> |
| by supervisors of student research            | <input type="checkbox"/> |
| by university networks                        | <input type="checkbox"/> |
| by combined university and community networks | <input type="checkbox"/> |
| other ways                                    | <input type="checkbox"/> |

Please give brief details \_\_\_\_\_

---

- Q49** Have research methods at your university changed as a direct result of science shop projects? (please tick)

Yes  1 No  2

If yes, please give brief details \_\_\_\_\_

---

- Q50** Has the research agenda at your university changed as direct result of science shop projects? (please tick)
- |               |                          |   |
|---------------|--------------------------|---|
| yes - a lot   | <input type="checkbox"/> | 1 |
| a little      | <input type="checkbox"/> | 2 |
| hardly at all | <input type="checkbox"/> | 3 |
| not at all    | <input type="checkbox"/> | 4 |

Please give brief details of any changes or attempts to change it \_\_\_\_\_

---

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**THANK YOU FOR YOUR ASSISTANCE IN  
COMPLETING THIS QUESTIONNAIRE**

**MORE INFORMATION ABOUT THE SCIPAS CONFERENCE  
WILL BE SENT TO YOU IN THE AUTUMN**

## **Appendix 2: Non-Response Study – SCIPAS questionnaire**

Conducted by:

Dr David Hall

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Bedford Street South,  
Liverpool L69 7ZA, UK  
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### **1 Background**

The SCIPAS questionnaire was widely distributed in June 2000 to contacts known to be involved in science shops or similar activities. These included community based research centres and similar organisations in Europe, North America, Australia and New Zealand, South Africa and Korea. Addresses came from contacts with members of the SCIPAS consortium.

Fifty seven replies were received, giving a response rate of 38%. These are the subject of the report in Work Package 1 by Andrea Gnaiger (FBI, Innsbruck) and Elizabeth Hendron (Northern Ireland Science Shop, Belfast).

Although the response rate is within expected limits for a mail survey, it is rather below what might have been expected from a sample which could be held to share a common interest, that of promoting science shop activity. The low response rate raises questions as to the representativeness of those responding, and the generalisations that can be drawn from these data.

To meet these problems, it was suggested that a non-response analysis could be used to investigate the characteristics of non-responders, and their reasons for not replying.

I was approached at the end of November, following the Bonn meeting of SCIPAS, by Elizabeth Hendron, to see if I would be able to conduct a non-response study of those failing to reply to the SCIPAS Questionnaire. When I agreed to the proposal, Elizabeth Hendron sent me via email a database of non-responders to the questionnaire, together with a copy of the questionnaire itself.

### **2 Aim of the Study**

The aim of the non-response study was to discover, if possible, why recipients of the questionnaire had not returned it. The reason for the enquiry was gain some assurance as to the representativeness of the responses already returned, by discovering if the non-respondents included many examples of science shops that had not contributed to the data analysis. If it could be shown that non-respondents were mainly people who considered themselves not to be science shops, and had not replied for that reason, this would increase the confidence in the findings and the generalisability of those responses that have been received.

A subsidiary aim of the study was to elicit further responses from those who had not returned their questionnaire in the first wave, thus increasing the response rate and accuracy of the survey.

### 3 Method of the Study

In view of the shortness of time available before the planned SCIPAS conference in January 2001, and also the lack of any funding to cover postage or telephone to different countries, it was decided to conduct the non-response study through email. Email also has the advantage of being a system readily accessible in higher education world-wide, quick and simple to use, and easy for respondents to return the message.

Against that, only around two thirds of the addresses on the non-response database gave an email address. It was possible for me, using web based information, to discover email addresses for a small number of additional non-responders. But for many others on the list of non-responses the task of locating email addresses proved impossible within the time constraints of this study.

The method chosen was to send a short email message to each non-responder, explaining the study, the definition of a Science Shop, and providing a short check list for people to give the reason why the respondent had not replied to the SCIPAS Questionnaire (see Appendix for details). Additionally, information (including website address) about the forthcoming Conference was given, and the questionnaire was included as an attachment to the email, in case the respondent wished to complete the questionnaire at this stage.

### 4 Sample

The list of non-respondents, as originally received, gave 109 names and addresses. Of these 68 had email addresses, and addresses for a further 5 were found. Despite internet searches at the given postal addresses, 5 on the list did not appear to be currently at the organisations stated, and did not have email addresses.

The sample broke down into different countries as follows:

COUNTRY	NON-RESPONSES	WITH EMAIL ADDRESS	VALID N-R SAMPLE
Austria	1	1	1
Belgium	1	1	0
Canada	13	13	13
Denmark	2	2	1
UK	17	14	13
France	3	3	0
Germany	24	13	9
Italy	1	1	0
Norway	1	1	1
Spain	1	1	1
Switzerland	1	1	1
Netherlands	19	18	8
USA	24	4	4
unknown	1	0	0
<b>TOTAL</b>	109	73	52

Only those with an email address could be entered into the non-response survey. The effect of this was marginal to the overall balance of countries of non-respondents, except in the case of the USA. Here all names on the non-respondents list did not provide email addresses, and internet searches were only successful in eliciting four email addresses.



The inclusion of large numbers of non-responses from the Netherlands immediately arose suspicions, as these were the most likely to be involved in SCIPAS and to have responded. Accordingly, I queried the list with Caspar de Bok (Utrecht University, Science Shop for Biology), who was able to provide an amended list of those receiving the original questionnaire. Ten names could be eliminated as not having received the original questionnaire, responses being co-ordinated through Science Shop managers.

This left a valid sample for the non-response survey of 52 individuals, who had received the original questionnaire, and whose email addresses were known.

## 5 Email Survey

The email survey was completed in stages between 4<sup>th</sup> and 13<sup>th</sup> December 2000, in which time emails were sent to all 52 on the non-response sample.

Error messages in mail delivery were immediately received from 6 addresses, indicating that the email address was defective in some way, and the person intended was uncontactable. This could either be because the person had left the organisation; or had changed their email address; or there had been a transliteration error in the original non-response database. In the 2 cases where a transliteration error seemed probable, the email was resent to the corrected address. Discounting those addresses no longer current or uncontactable gives a true non-response sample of 48 individuals.

## 6 Results of Non-response Study

Twelve replies were received to the non-response study, giving a response rate of 25%. As there was no time to send further reminders before the Christmas season, this appeared to be a not unreasonable rate for a single follow-up study.

The responses were as follows:

Science Shop	3
Not Science Shop	8
Refusal	1
Total	12

The three science shops which replied are as follows:

*Denmark:*

Silvana Adam, 4330 Hvalsø, Denmark

*UK:*

David Hurry, School of Cultural Studies, Sheffield Hallam University, Sheffield S10 2BP, UK

*Switzerland:*

Leo Jenni, Koordinationsstelle MGU, Universität Basel, Socinstrasse 59, Basel, Switzerland

Replies stating they were not involved in Science Shop activities came from Canada (1), UK (5), France (1), and the Netherlands (1). There was one refusal from Germany, unable to open the questionnaire attachment.

## **7 Conclusions**

Fifty seven replies were received to the questionnaire in the original mailing, and the non-response survey has elicited a further three replies from science shops. It seems reasonable to conclude that as far as Europe is concerned, most of the science shops have been contacted and have replied.

For the reasons given above regarding email addresses, coverage of the USA in this survey has been sparse, and it cannot be assumed that most community based research centres have been identified and contacted. Further work needs to be done in this area to ensure coverage.

With regard to the responses from the UK, stating that they are not science shops, it has to be borne in mind that these are self-assessments made against the definition of science shops adopted by SCIPAS after the Dronen (April 2000) and Bonn (November 2000) meetings, and published on the Living-Knowledge website. Some of these non-responses are known to me to be engaged in a variety of community based learning activities with students, though falling short of regarding themselves as science shops.

There is a grey area between formal incorporation into a science shop, with budget and staffing, and more informal institutional arrangements which permit students to do science shop activities as part of their studies..

## **8 Recommendations**

The need for an up-to-date and accurate database of science shops is unquestioned, and is the subject of a separate work package. Further work needs to be done to identify community based research centres outside Europe.

The identification of country or regional co-ordinators would assist further research and dissemination, where the co-ordinators have an overview of the extent of science shop / community based research activity in their country or region.

Consideration should be given to extending the database to individuals and institutions that perform science shop activities, though outside of the institutional framework of a formal organisation.

**Appendix: Text of email survey:**

=====  
SCIPAS - Living Knowledge  
=====

Dear Colleague,

We are trying to collate information internationally on Science Shop activity. Our working definition for "Science Shop" is:

"any organisation that provides independent, participatory research support in response to concerns experienced by civil society."

These may operate within or outside of a university context.

Some time ago you were sent a questionnaire about Science Shops, and we do not appear to have received your reply.

It would be helpful to know the reason for your non-response. Could you please take a moment to e-mail back your answer to the few questions below?

PLEASE PUT X IN THE BOX IF ANY OF THESE APPLY:

- My organisation does not fit the definition given above
- I have already replied personally
- A colleague has already replied on my behalf
- I no longer work in a Science Shop
- I do not wish to receive any more information on Science Shops

Thank you for your co-operation.

If you do work in a Science Shop as defined above, and do wish to complete the questionnaire, a copy (in MS Word v6) is attached, and can be returned by email.

For all information on Science Shops and the forthcoming international conference in Leuven, Belgium in January 2001, please see our website for Living Knowledge at:

[www.bio.uu.nl/living-knowledge](http://www.bio.uu.nl/living-knowledge)

Many thanks,  
David Hall (on behalf of SCIPAS)

### **Appendix 3: Analysis of open question 6 and 27**

#### **No 6: What criteria, if any, do you use when judging whether to accept a research request?**

There was no statistical analysis done on the criteria the science shops use when judging whether to accept a research request. The data was categorised and the frequency of the occurrence of the categories was measured, under consideration of the two basic models university-based and non-university based.

##### *Categories - University based:*

- social relevance-relevance for larger group - social benefit - community based;
- no politic, no business;
- financial means of the group - non profit organisation - no possibility to pay for research;
- related to education of the university - the science - the expertise of the science shop;
- suitable for academic credit;
- possibilities of the organisation to conduct research - useful output;
- manpower of science shop - possibilities - enough resources;
- results public;
- within time of an academic year;
- individual questions only with general interest or from individuals in distress;
- well organised group;
- issue involves matters between authorities and community;

The most frequently mentioned criteria were, that the requests should be related to education of the university, to science or to the expertise of the science shop staff, followed by requests not coming from policy or business and very closely followed by the social relevance or social benefit of the expected results. The following criteria are the financial means of the client group, that it should be a non profit organisation. One science shop responded the client group should be well organised. Further criteria are the possibilities of the group to conduct research and that the output should be useful. The next frequently used categories are public results and enough resources of the science shop, two science shops responded that it depends on the manpower of the science shop and one that it should be possibly finished within one academic year. Generally the university based science shops don't accept requests from individuals. One science shop makes an exception in the case that the request of an individual is of general interest and another would accept requests from individuals in distress. One science shop applies the criteria, that the issue involves matters between the authorities and the community.

##### *Criteria - Non university based:*

- applicable results - final product will support an organisation;
- funding;
- no commercial interest;
- common interest - importance for society;
- community participation is viable - relationship with group;
- duration of project;
- manageability;

The above criteria are all mentioned only one or two times due to the quite small number of non-university based science shops in the sample. Just 8 non-university based science shops responded to this question. An analysis of the main criteria does not really make

sense. The frequently mentioned criteria (three and four times) are the useful results and the common interest or importance for society. All other criteria are mentioned once or twice.

Taking into account the answers of all science shops it can be stated, that the general criteria is the social relevance or common interest of the request. For non university based science shops funding is an important criteria. For the same reason they mention less criteria for accepting requests than university based science shops, whose work is basically paid by the university. On the other hand an important criteria for university based science shops is, how the request fits the academic criteria or is suitable for academic credit.

The useful output for the community group is important for both science shop models.

## **No 27: What three main things do you think have contributed to your overall success or failure?**

There was no statistical analysis done on the reasons for success or failure. The data was categorised and the frequency of the occurrence of the categories was measured, under consideration of the two basic models university-based and non-university based.

### *Categories – success, university based :*

Flexibility, staff, innovative idea, few competition, public relation, relationship to university, easy access, scientific quality, commitment of science shop staff and advisory board, professionalisation, democracy, demand, relationship to community, cheap, external funding, independence, university funding, marketing research as a speciality, participation, support from SSHC, networking, combining theory and practise, connection to local and national authorities, organise excursions and symposia,

### *categories –success, non-university based*

creativity, flexibility, public relation, contacts to communities, network, staff, interdisciplinarity, commitment, good advisory committee, feeling for new themes, external funding, practical work, participation, special service, funding support, good quality and solid viable research, education at multiple levels, working simultaneously in policy, research, advice, economic investors

### *Categories – failure, university based:*

not enough students, not enough staff, not enough visible and incorporated at the university, lack of commitment, lack of funding, projects need to long time, hard to get peoples attention, political constraints, no expert at the university, embedding at the university needs to long time, European model does nor fit our culture

There are no categories - failure, non-university based as the non-university based science shops did not mention any reasons for failure.

### *Reasons for success, university-based science shops:*

The majority of the university based science shops mention their good relationship to the university and its members ( scientific staff, departments, enthusiasm and commitment of the students). Only half frequent mentioned is the good contacts to the community. A less frequent factor for success is the staff (experiences, good team, engagement, interdisciplinary, flexibility and creativity) followed by public relations and scientific quality of reports. Another factor are the costs for science shop work (cheap, basic funding and external funding). It is considered of advantage to be a member of networks, to have members and a commitment of science shop staff and advisory board. Single quotations are: few competition, commitment of science shop staff and advisory board, democracy, independence, participation, support from SSHC, connections to local and national authorities.

Also special offers by a science shop are considered to contribute to their success as marketing research or the organisation of excursions and symposia.

*Reasons for success, non-university based science shops:*

The majority of the non-university based science shops mention their good contacts to the community, followed by the staff ( good team, different experiences and engagement, interdisciplinary) Less frequent is public relation followed by flexibility, networking, commitment, practical work, participation and working simultaneously in policy, research, advice, economic investors. Single quotations are: creativity, good advisory committee, feeling for new themes, external funding, special service, solid viable research, education at multiple levels and good quality.

*Reasons for failure – university based*

The majority of the university based science shops mention a lack of students, followed by not enough science shop staff and low visibility and lack of full incorporation into the university. Less frequent: the projects need to long time, lack of funding. Single quotations are. the European model does not fit our culture, commitment, its hard to get peoples attention, the embedding in the university needs to much time, no expert for the project at the university for this project, political constrains.

## **Appendix 4: Full length interviews**

### **Interview 1**

#### **Science shop Graz, Austria**

##### *Die Entwicklung*

Das ursprüngliche Konzept Forschungs Gruppen zur Verfügung zu stellen, die weder Zugang noch Finanzmittel dafür haben, für Fragestellungen von gesellschaftlicher Bedeutung, ist im Grunde gleichgeblieben. Ebenso die Arbeitsweise. Geändert hat sich nur die Geldgeberschaft, anstelle des Bundesministeriums für Wissenschaft, das die Anfangsjahre mitgetragen hat, wurde es ab der Änderung des Hochschulgesetzes die Universität Graz. Seit 1996 trägt die Universität den Anteil, den das Ministerium vorher bezahlt hatte und zwar ist das der Großteil der Basisfinanzierung. Eine weitere Veränderung ist, daß mehr Projekte von den MitarbeiterInnen selbst durchgeführt werden, um das Budget zu vergrößern. Deutlich verschoben hat sich der Schwerpunkt von der Wissensvermittlung Anfang der 90-er Jahre auf die Forschungsvermittlung - d.h. hauptsächlich Vermittlung von Diplomarbeiten und inhaltlich vom ökologischen Bereich auf den Sowi-Geiwi-Bereich.

Eine weitere deutliche Veränderung ist die zunehmende Nutzung der modernen Informations- und Kommunikationstechnologien, denn die Mehrzahl der Anfragen kommt heute via Internet und e-mail herein. Die FragestellerInnen sind in ihrer Struktur trotz der Änderung des Kommunikationsmediums gleich geblieben: Non Profit Organisationen, Gemeinden, BürgerInneninitiativen, Schulen.

Das Konzept soll auch weiterhin beibehalten bleiben, es ist keine Öffnung hin zu mehr kommerziellem Arbeiten vorgesehen. Der Wissenschaftsladen könnte aber in der bestehenden Form ausgebaut werden, wenn mehr Geld vorhanden wäre. Das wäre auch eine Möglichkeit deutlichere Schwerpunktsetzungen vorzunehmen.

Die Hauptsache der Bearbeitungen verläuft so, daß eine Anfrage in mehrere Themen für Diplomarbeiten geteilt wird. Eine Arbeitsgruppe, bestehend aus den FragestellerInnen, den DiplomandInnen, den BetreuerInnen an der Uni und den MitarbeiterInnen des Wissenschaftsladens treffen sich regelmäßig zu dem betreffenden Thema und besprechen die Fortschritte der Arbeit. Die Formulierung in Diplomarbeitsthemen verlangt eine gewisse Rücksichtnahme auf die Anforderungen, die von den jeweiligen Instituten an Diplomarbeiten gestellt werden. In der Gruppe findet auch ein Austausch unter den Studierenden statt und die zusätzliche Betreuung durch die WissenschaftsladenmitarbeiterInnen wird besonders geschätzt. Das liegt daran, daß die Uni-BetreuerInnen nicht so viel Zeit investieren können und die Studierenden sich nicht trauen, ihnen "dumme" Fragen zu stellen. Die zusätzliche Betreuung wird auch von der Universität geschätzt und nicht als Konkurrenz angesehen. Der Wissenschaftsladen Graz hatte im Laufe der Jahre eine starke Personalfuktuation, es wurde aber nie jemand gekündigt, es handelte sich hauptsächlich um Karenzen oder freiwilliges Ausscheiden wegen eines besseren Stellenangebots. Besser heißt finanziell höher dotiert und Vollzeit. Die MitarbeiterInnen im Wissenschaftsladen Graz arbeiten alle Teilzeit, je nach finanzieller Lage mehr oder weniger, aber höchstens 30 bis 35 Stunden pro Woche.

Derzeit sind Beispiele für Hauptthemen, die bearbeitet werden:  
Berufswahldiagnostik, Kindergartenpädagogik, Familienhilfe, Natura 2000.

##### **Erfolg:**

Gemessen wird der Erfolg an der Anzahl der vermittelten, bzw. abgeschlossenen Arbeiten. Die Zählung erfolgt getrennt nach Wissensvermittlung, d.h. Anfragen, die relativ rasch aus

dem bestehenden Wissenschaftsstand beantwortet werden können und Forschungsvermittlung, d.h. in der überwiegenden Mehrzahl Diplomarbeiten. Derzeit sind es pro Jahr 70 bis 80 Anfragen in der Wissensvermittlung und 70 laufende Diplomarbeiten, letzteres eine Zahl, die bisher noch nie erreicht wurde.

Für Studierende und Universität gilt die Zufriedenheit als Erfolgsmerkmal, das der Wissenschaftsladen Graz aufgrund entsprechender Rückmeldungen sehr gut erreichen kann. Die Universität lobt die Transferarbeit und die Tatsache, daß gesellschaftliche Gruppen von den Leistungen der Universität profitieren können, die diese Chance ohne Wissenschaftsladen nie hätten. Der Wissenschaftsladen wurde im Laufe der Jahre hauptsächlich durch Mundpropaganda immer bekannter, so daß jedes Jahr 100 bis 180 Studierende Kontakt aufnehmen auf der Suche nach einem praxisorientierten Diplomarbeitsthema. Diese Zahl ist stark steigend.

Der Erfolg für die AnfragerInnen zeigt sich in der verwendbaren Beantwortung. Problematisch erscheint nur die universitäre Anforderung an die Diplomarbeiten, die manchmal eine Veränderung des Themas notwendig machen, sodaß es vorkommen kann, daß die ursprüngliche Fragestellung verändert ist. Es ist die Aufgabe der MitarbeiterInnen des Wissenschaftsladens zu schauen, daß die Beantwortung noch im Rahmen des Gebrauchten bleibt. Die WissenschaftsladenmitarbeiterInnen müssen auch gelegentlich zwischen den Vorlieben der Professoren und/oder Studierenden und dem Beantwortungsanspruch der FragestellerInnen zu vermitteln versuchen.

Allerdings kann in den Unibetrieb nicht wirklich eingegriffen werden. Sollte das Thema so stark verändert worden sein, daß der Fragesteller damit nichts mehr anfangen kann, kann man nichts machen. Eine Schwierigkeit ist es auch, wenn DiplomandInnen die Diplomarbeit vor der Beendigung aufgeben. Der Wissenschaftsladen bemüht sich dann, einen Ersatz zu finden oder die Arbeit Ressourcen ab.

Mißerfolg wäre der Abbruch einer Arbeit. Es wird zwar ein vertragsähnliches Formular mit den Studierenden unterschrieben, was aber nichts an der Freiwilligkeit der Diplomarbeit ändert. Bezahlte Diplomarbeiten, die auf der Wirtschaftswissenschaftlichen und Technischen Fakultät verbreitet sind, sind im Themenbereich des Wissenschaftsladens sehr selten. Bezahlung erhöht natürlich die Verbindlichkeit.

Neben der Anzahl der erledigten Anfragen wird der Erfolg am Inhalt aufgehängt, an der Qualität der Bearbeitung und der Antwort. Hier gelten wissenschaftliche Kriterien, sowie Verständlichkeit und Verwertbarkeit für die KlientInnen. Qualität heißt, eine wissenschaftlich haltbare Diplomarbeit, zugleich ein guter Projektbericht und zufriedene AnfragerInnen.

#### **PR-Arbeit:**

Hauptsächlich wurde der Wissenschaftsladen durch Mundpropaganda bekannt, daneben verbreitet er regelmäßig Berichte und eine Zeitung über die Ergebnisse. Kontaktaufnahme zu den Studierenden erfolgt neben dem Internet hauptsächlich über die Aushänge an den entsprechenden Instituten, die Unizeitung und das Vorlesungsverzeichnis.

Das größte Hindernis ist die jährlich notwendige Bemühung um die Finanzierung. Dazu sind Tätigkeitsberichte und Anträge zu schreiben, was Zeit kostet. Es kommt vor, daß am Jahresende Kündigungen ausgesprochen werden, um die notwendige Sorgfalt der Finanzgebahrung für einen Verein walten zu lassen. Sind die Budgetverhandlungen erfolgreich verlaufen, werden die MitarbeiterInnen wieder eingestellt. Aus politischen Gründen, wie im Vorjahr mit den monatelangen Koalitionsverhandlungen, kann es besonders schwierig werden. Eine Kündigung der Büroräume war aber noch nie notwendig. Die Basisfinanzierung reicht auch aus, um notwendige Neuanschaffungen für den Bürobetrieb zu tätigen.

#### **Konkurrenten:**

Gibt es eigentlich keine. An der Universität Graz wurde zum Zwecke der Kompetenzklärung eine Besprechung aller Transferfähigkeiten und -einrichtungen durchgeführt. Es stellte sich heraus, daß das Angebot des Wissenschaftsladens singulär ist. Qualität der Diplomarbeiten



bestimmt die Universität, es gibt da auch Vorgaben einzelner Institute, die über die inhaltlichen Kriterien hinausgehen wie beispielsweise ein Zeitrahmen für die Durchführung. Nachdem die Betreuungssituation an der Universität schlecht ist und DiplomandInnen auch auf Wartelisten auf Termine mit dem Betreuer/in warten müssen, liegt das ebenso wie die wissenschaftliche Qualität in der Verantwortung der Uni-BetreuerInnen.

Das Prestige des Wissenschaftsladens ist im Laufe der Zeit gestiegen, sicher tragen die weit verbreiteten Berichte dazu bei, es ist aber schwer, den ausschlaggebenden Grund zu finden. Es braucht einfach Zeit, bekannt zu werden und die Erfolge deutlich machen zu können, so, daß es auch im Gedächtnis der Angesprochenen haften bleibt. Gerade das Konzept eines Wissenschaftsladens ist nach wie vor schwer vermittelbar. Die damit konfrontierten Menschen verstehen nicht ohne weiteres, was ein Wissenschaftsladen macht. In Österreich wird ein Wissenschaftsladen vorrangig für eine Buchhandlung gehalten. Diese Schwierigkeit des Anfangs der Wissenschaftsladenbewegung ist bis heute geblieben.

Die Struktur der Wissenschaftsladens Graz ist nach wie vor die eines Vereins mit einem Kooperationsvertrag mit der Universität, der aber inhaltlich sehr weit gefaßt ist. Das ermöglicht den MitarbeiterInnen viel Freiheit in ihrer Arbeit, Selbstbestimmtheit und Flexibilität.

Rückwirkender Einfluß auf die Universität, ihre Curricula und Forschungsmethoden ist nicht feststellbar, dazu wäre ein 5-Personen Verein wohl auch zu klein. Eine kleine Änderung ist es vielleicht, daß Diplomarbeitsthemen angenommen werden, die ohne Unterstützung und Vermittlung des Wissenschaftsladens nicht akzeptiert worden wären. Die MitarbeiterInnen des Wissenschaftsladens haben auch teilnehmenden Status in Gremien wie dem Naturschutzbeirat der Stadt Graz, das aber ist der einzige äußerst geringe politische Einfluß.

#### **Tips für NeugründerInnen:**

Zeit, der Aufbau, das Bekanntmachen eines Wissenschaftsladens braucht einige Jahre Zeit. Das heißt ein langer Atem ist notwendig, vor allem auch finanziell. Ein motiviertes, engagiertes Team ist ebenfalls notwendig, das vor allem bereit ist, auch für wenig Geld weiterzuarbeiten. Wenn aber eine mehrjährige Finanzierung nicht gegeben ist, ist es auch von einem engagierten Team und mit guten Ideen nicht zu schaffen. Als Grundausstattung und Recherchemittel gehören Internet und e-mail heute ebenfalls dazu. Sehr günstig wirkt sich auch ein zugkräftiger, bekannter Name an der Spitze des Ladens oder im Beirat aus. Ein Unterstützer, der Ansuchen mitunterschreibt, der auch die Initiative ergreift und die Idee promotet. Günstig ist es, zugkräftige Referenzprojekte am Anfang zu machen, die zeigen, wie die Arbeit erfolgreich laufen kann.

Der Wissenschaftsladen Graz meint, es gäbe so etwas wie eine kritische Masse, d.h. mindestens 3 Personen und ein Sekretariat, alle halbtags. Besser wäre 5 bis 6 Personen, plus Sekretariat und plus Geschäftsführung, die sich auch um die Finanzierung kümmern kann. Das spricht den Punkt des Fragebogens an, wo auf die Frage nach dem größten Wunsch hauptsächlich "mehr Personal" gefordert wird. Mehr Personal bedeutet mehr Vermittlungstätigkeit, mehr Möglichkeiten Grundsatzüberlegungen anzustellen und Konzepte für die eigene Arbeit zu entwickeln und zu überarbeiten, Finanzierungsideen zu entwickeln und die Aquisition durchzuführen, mehr PR zu machen (viele Antwortende in den Fragebögen überlassen das den ProjektbearbeiterInnen), mehr Vernetzung, möglicherweise auch Selbstevaluierungen durchzuführen oder sich um Fremdevaluierungen zu bemühen. Alles Bereiche, die nur in den "größeren", d.h. mit Personal und Finanzmitteln besser ausgestatteten Wissenschaftsläden abgedeckt werden können.

Die MitarbeiterInnen müssen engagiert und kommunikationsfreudig sein, sie müssen eine hohe Frustrationstoleranz ausweisen, Interesse an Wissenschaft und Transfer haben und das finanzielle Risiko eines Teilzeitjobs und der jährlichen Bedrohung mit dem Aus-tragen können.

## **Interview 2**

### **Science shop Vienna, Austria**

#### **Veränderungen?**

In der Anfangsphase der Gründung (1991) gab es lange Knocharbeit bis ein regulärer Betrieb aufgenommen werden konnte. Dieser wurde zunächst durch eine dreijährige Projektphase eingeleitet, die vom Wissenschaftsministerium finanziert wurde. In dieser Zeit führten bauten wir einen KlientInnen-Stock auf, führten vorwiegend für gemeinnützige Einrichtungen wissenschaftliche Beratungen, Recherchen, Arbeitskreise, usw. durch, vermittelten gesellschaftlich wichtige Themen an DiplomandInnen und DissertantInnen. Kurz gesagt, konnten wir in dieser Zeit den Wissenschaftsladen im ursprünglichen Sinne betreiben, also mit sehr viel Transferarbeit und wenigen Eigenprojekten.

Schon während der dreijährigen Projektphase versuchten wir (entsprechend der Auflage des Ministeriums) eine anschließende Anbindung an eine der Wiener Universitäten zu erreichen. Diese Integration konnte durch die Gesamtsituation der Universitäten, vor allem der Umstrukturierungen und budgetären Kürzungen nicht verwirklicht werden, wenn auch eine gute und enge Zusammenarbeit mit vielen universitären Einrichtungen und MitarbeiterInnen entstanden ist.

Da nun die Mittel für die eigentliche Vermittlungsarbeit fehlten, wurde dieser Bereich des Wissenschaftstransfers deutlich zurückgenommen. Nichtsdestotrotz führen wir die Idee des Wissenschaftsladens weiter, wenn auch der Schwerpunkt in den eigenen Projektbereich verlagert wurden. Bis heute entwickeln wir jedoch unsere Projekte aus Anfragen, die den Kriterien eines klassischen Wissenschaftsladens entsprechen. Nur noch in ganz kleinem Rahmen ist es uns möglich, Diplomarbeiten zu vermitteln. Häufiger führen wir noch Kurzberatungen, Recherchen und die Vermittlung an relevante Stellen durch. Auch die Neuen Medien haben unsere Arbeit verändert: die Möglichkeiten, gut strukturierte Websites als Informationsquelle zu empfehlen, nimmt einen immer höheren Stellenwert ein. Deshalb haben wir auch den Schwerpunkt "Informationsgesellschaft im gemeinnützigen Bereich" entwickelt.

Nach wie vor bestimmt unsere Forschungstätigkeit die Frage, wo dringender Forschungsbedarf besteht und es werden die Projekte auch inhaltlich im Hinblick auf die Bedürfnisse der Betroffenen und die Umsetzbarkeit der Ergebnisse orientiert.

#### **Finanzierung?**

Die Finanzierung erfolgt projektspezifisch, der größte Anteil kann von öffentlichen Stellen akquiriert werden.

#### **Themen?**

Die derzeitigen Themen sind: NGO-Bereich, Frauenpolitik, Bildung und Arbeit, Bürgerfreundlichkeit Informationsgesellschaft. Eine Schwerpunktverlagerung bringen auch inhaltlich die Neuen Medien, weil sie der Bevölkerung eine stark erweiterte Abfragemöglichkeit zu allen Interessensgebieten ermöglichen. (Das Internet würde auch die Möglichkeiten zur europaweiten Zusammenarbeit der Wissenschaftsläden verbessern, es könnte durch diese Vernetzung ein größerer, interdisziplinärer ExpertInnen-Pool angesprochen werden. U.U. könnten Anfragende auch europaweit vermittelt werden, soweit die jeweiligen Fragestellungen nicht regionalspezifisch sind.

#### **Was für Projekte führt Ihr durch?**

Möglich sind Expertenrunden, Tagungen, begleiteten Arbeitskreisen und eigene Forschung. Die Finanzmittel werden jeweils einzeln aquiriert, meistens gibt es eine Mischfinanzierung. Die Mehrheit der Gelder stammt von der öffentlichen Hand. Im Hinblick auf die Kosten-Nutzen-Relation nehmen wir von Sponsoring aus der Wirtschaft eher Abstand.

#### **Arbeiten bei Euren Forschungsprojekten Studierende mit?**

Diese Arbeitsform ist im Team eingehend diskutiert, dann als schwer durchführbar und unökonomisch verworfen worden.. Als Hauptargument dagegen (unter vielen) führe ich nur an: Der Wissenschaftsladen ist nicht nur gegenüber den jeweiligen Anfragenden, sondern auch gegenüber GeldgeberInnen verpflichtet - sehr konkret haftet er für die Einhaltung eines Vertrages mit Zeitplan usw. Die Studierenden dagegen müssen sich an die Vorgaben der universitären BetreuerInnen halten, um Ihren Abschluß möglichst rasch zu bekommen. Diese Konstellation macht die Forschungsarbeit sehr unflexibel, es sind zuviele unterschiedliche Faktoren, Bedürfnisse und Motivationen zu berücksichtigen, um noch gute Arbeit garantieren zu können. Daher: Entweder Forschungsprojekt *oder* Diplomarbeit.

### **Eure Betriebsgröße?**

Unsere Betriebsgröße ist eigentlich über viele Jahre relativ konstant geblieben. Derzeit haben wir 3 Personen "im Kern", dazu kommt ein sehr breiter "Dunstkreis" von ExpertInnen, die immer wieder in Projekte eingebunden werden, oft als freie MitarbeiterInnen mit abgegrenzten spezifischen Aufgaben. Auch zur Uni bestehen sehr gute Kontakte und unser Beirat stellt einen interdisziplinären ExpertInnenpool dar, der bei Bedarf nach wissenschaftlicher Beratung angefragt werden kann.

### **Was ist für Euch Erfolg? Seht Ihr Euch als erfolgreich?**

In dieser Frage haben wir uns nicht allzuweit von der ursprünglichen Wissenschaftsladen-Idee entfernt. Erfolg basiert für uns sehr stark auf der konkreten Verwertbarkeit unserer Arbeit, insbesondere für wissenschaftsferne Personengruppen. Forschung im praxisorientierten Sinn soll etwas in Bewegung setzen. Ein Misserfolg wäre in unserem Fall daher ein Projekt, sei es eine Forschungsarbeit, eine Arbeitsgruppe oder eine Tagung, die für niemanden von Relevanz ist, außer vielleicht für einen kleinen, womöglich elitären ForscherInnenkreis. (Da wir unsere Projekte aber in dieser Hinsicht sehr genau auswählen, ist dies glücklicherweise noch nicht vorgekommen.) Aus diesem Grunde kann ich Deine Frage, ob wir uns selbst als erfolgreich sehen, bejahen.

### **Habt ihr Konkurrenz und wo ist die?**

Als Konkurrenz bei der Projektmittelaquirierung sind andere Forschungsinststitute im universitären und außeruniversitären Bereich zu nennen. Diese Konkurrenz stufen wir als groß ein, einfach weil die öffentlichen Aufwendungen für Forschung insgesamt viel zu gering sind, und sich viele Institute um Projektfinanzierung bemühen.

### **Sind die MitarbeiterInnen des Wila Wien selbstbewußt? Wie ist Euer Prestige?**

Auch diese Fragen können bejaht werden. Dieses Selbstvertrauen entsteht aus den Rückmeldungen über unsere Arbeit. Das Prestige des Wila ist hoch, vor allem bei der Klientel, bei anderen Forschern und Geldgebern. Im wirtschaftlichen Bereich sind Wissenschaftsläden weniger bekannt, dieser Bereich könnte ausgebaut werden, vor allem, wenn es um Klein- und Mittelbetriebe geht. (Ansätze zum Trend einer verstärkten Integration von sozialwissenschaftlichen Know-How sind bereits zu beobachten.)

### **Wert der Berufserfahrung in e. Wila am Arbeitsmarkt?**

Die Erfahrungen in einem Wissenschaftsladen werden am Arbeitsmarkt durchaus positiv bewertet. Die "WissenschaftslädnerInnen" eigenen sich breitgefächerte Qualifikationen an: Beratungsdienstleistung, Informationsbeschaffung, Moderation, anwendungsorientiertes wissenschaftlich-methodisches Knowhow, Projektentwicklung und -management, soziale Kompetenz, Vernetzungserfahrung, sind m. E. die wesentlichsten Kompetenzen, die im Wissenschaftsladen geschult werden. Gute Einstiegschancen sehe ich daher in vielen Bereichen, nicht nur in der Wissenschaft, sondern auch in Erwachsenenbildungsinstitutionen, in Non-Profit-Organisationen, im Bereich Neuer Medien, u. v. m.

### **Welche Hindernisse?**

Es ist derzeit schwierig, GeldgeberInnen für einzelne wichtige Transferbereiche zu finden, etwa die Anfrage- und Diplomarbeitenbörse, die derzeit nur auf Sparflamme läuft. Weniger schwierig ist die Durchführung einzelner, konkreter Projekte. Manche Themen sind schwerer zu "verkaufen" als andere - auch wenn für die Betroffenen die jeweilige Studie wichtig wäre. Problematisch sind auch die Vergabemodi und Abrechnungsmodi bei vielen öffentlichen Stellen: Oft werden nur die Personalkostenabrechnungen akzeptiert und keine prozentuellen Infrastrukturkosten, wie dies in vielen Ländern der üblich ist.

### **Öffentlichkeitsarbeit?**

Derzeit vor allem über Mundpropaganda - wir haben schon länger keinen Newsletter versandt. Man kann sagen die Zielgruppe kennt den Wissenschaftsladen Wien, weiters über Artikel in Zeitschriften, etwa Uni-Zeitungen, Profil, Standard, usw. Zunehmendes Gewicht nimmt wiederum das Internet ein. Wir haben natürlich auch "Werbematerial", wie einen Folder und eine Kurzbeschreibung, die wir an Interessierte weitergeben. Weitere Öffentlichkeitsarbeit erfolgt projektspezifisch. Die Ergebnisse von Projekten werden in geeigneter Form veröffentlicht, Vorrang hat wiederum, daß die jeweils betroffene Zielgruppe informiert wird.. Berichte können auch durch Verlage publiziert werden, dann gibt es Pressekonferenzen, Aussendungen u. ä.

### **Habt Ihr Qualitätsstandards?**

Im Sinne von ISO-Werten: nein. Ansonsten gibt es natürlich schon Qualitätskriterien. Der Wila Wien arbeitet methodisch korrekt in Kombination mit gesundem Menschenverstand. Um blinde Flecke zu vermeiden, besprechen wir die Vorgangsweise miteinander, holen wir auch immer Rückmeldungen in unserem interdisziplinären Team ein. Das wichtigste Kriterium ist jedoch die Prüfung der Ergebnisse an der Realität, die für jede/n nachvollziehbar sein muß. Die Qualität besteht v. a. aus den positiven Rückmeldungen von Betroffenen, AuftraggeberInnen und anderen Interessierten. Ein Besonderes Qualitätskriterium für Wissenschaftsläden besteht natürlich auch in der Verfügbarmachung der Ergebnisse für alle Bevölkerungsgruppen. Das heißt, das Berichte in einer gut verständlichen Sprache verfaßt sein sollen und daß die Ergebnisse auch auf breites Interesse bei denjenigen stoßen sollten, für die die jeweilige Problemstellung von praktischer Relevanz ist. Wichtig ist, das etwas in Bewegung kommt, die Ergebnisse nicht in einer Schublade verschwinden, die BürgerInnen zufrieden sind.

### **Können ihr direkt Einfluß auf politische Entscheidungen nehmen?**

Indirekt sicher in dem Sinne, daß etwas in Bewegung kommt, die Ergebnisse von EntscheidungsträgerInnen gelesen und berücksichtigt werden. Der politische und gesellschaftliche Meinungsbildungsprozeß, auf Basis dessen konkrete Entscheidungen getroffen werden, entsteht auch durch Wechselwirkungen, etwa indem wir mit Betroffenen diskutieren, die die Ideen wiederum weitertragen, usw. Auch öffentliche Diskussionen oder Maßnahmenvorschläge in unseren Berichten dürfen häufig berücksichtigt werden. Ein "direkter" Einfluß in dem Sinne, daß wir jemandem etwas raten, ist insofern nicht leicht überprüfbar, als zumeist auch die Meinung von weiteren Stellen eingeholt wird, die durchaus zu ähnlichen Ansichten gelangt sind, wie wir. Es wäre dann ein eigenes Forschungsprojekt, herauszufinden, wie genau die Entscheidungslinien gelaufen sind, aber kein wirklich Interessantes.

### **Einfluß auf die Universität?**

Hier gilt dasselbe wie oben: Direkte Einflußnahme ist so gut wie nie überprüfbar, das kann ich nicht seriös beantworten, ich kann nur herauraten! Wir arbeiten mit vielen Instituten und ProfessorInnen gut zusammen, in vielen Punkten kann man schon einen Einfluß unsererseits ablesen, definitiv ist es aber nicht.

### **Was ist für Wissenschaftsläden typisch?**

Der Praxisbezug im nichtwirtschaftlichen Bereich, Forschung, die von Betroffenen eingebracht wird, deren Bedürfnisse in den Mittelpunkt steht und in ihren Ergebnissen auf die praktische Umsetzung orientiert ist.

Die Arbeit ist daher auch getragen von einer ehrlichen Auseinandersetzung auf gleicher Ebene von Akademikern und Nicht-Akademikern im Forschungsablauf. Die Motivation der MitarbeiterInnen ist es, sinnvolle Arbeit leisten, langfristig etwas zu bewegen. Es geht darum, herauszufinden, welche Bedürfnisse die Leute haben und das bestmöglich zu machen. Das heißt, der Servicecharakter ist wichtig. Ein Wissenschaftsladen ist für mich etwas anderes als der übliche Forschungsbetrieb, ich siedle ihn am ehesten zwischen Wissenschaft einerseits und *Sozialwesen* (bzw. Umweltschutz) an, da wir gemeinnützigen, karitativen Organisationen kostengünstige Forschungsarbeit liefern.

Ich würde durchaus wieder "Wissenschaftslädnerin" werden, es ist sehr spannend mit den unterschiedlichen Aufgabenstellungen und Personengruppen zu arbeiten.

### **Tips für Neugründungen**

Ein langer Atem ist derzeit sicher notwendig, die richtigen Leute müssen mit Konsequenz die Idee betreiben. Wichtig ist es, gute Kontakte aufzubauen, etwa zu Ministerien und zur Universität. Günstig ist immer, unterschiedliche Vorbilder anzuschauen und dann die eigene Linie herausfinden. Das kann etwa durch Praktika bei bestehenden Wilas geschehen. Leichter wäre es, wenn die Wissenschaftsläden hier ähnliche Verbreitung wie in den Niederlanden fänden, dann wäre es einfacher. Zur Zeit hätte eine Neugründung in Österreich sehr geringe Chancen.

### **Wenn mehr Personal bezahlt werden könnte?**

Dann wäre z. B. eine Unterteilung in ein eigenes Sekretariat möglich, es wäre eine stärkere Spezialisierung möglich, etwa im Hinblick auf bestimmte Arbeitsbereiche, wie die Diplomarbeitbörse. Es könnten natürlich mehr Anfragen bearbeitet, mehr Projekte durchgeführt werden. Die optimale Betriebsgröße wären 6 bis 8 Leute im Kern, es könnte dann 2 bis 3 Abteilungen mit inhaltlichen Schwerpunktsetzungen geben. Es wären auch größere und stärker interdisziplinäre Projekte möglich. Als größerer Betrieb ist man sicherlich verhandlungsstärker gegenüber manchen Stellen. Vielleicht wäre es auch leichter, EU-Gelder zu bekommen, weil die EU eher größere Projekte finanziert. Ein Nachteil an einem größeren Betrieb ist natürlich ein gewisser Verlust an Flexibilität, der immer entsteht, wenn viele Personen zusammenarbeiten.

### **Vernetzung?**

Vernetzung wird punktuell betrieben, immer wenn es sich anbietet und möglich ist. Vor allem ist es ein Zeitproblem, sonst wären wir an einer Vertiefung interessiert. Die Vernetzung geschieht mit anderen Wissenschaftsläden, häufig mit Graz, anfrage- und diplomandInnenbezogen. Es gibt aber *derzeit* kein gemeinsames Projekt. Außerhalb der Wissenschaftsläden sind wir zu anderen, auch eher kleineren Forschungseinrichtungen in Wien vernetzt. Inhaltlich handelt es sich um gegenseitiges Anfragen, Austausch von Unterstützung und Know-how. Es ist aber grundsätzlich eine Zeitfrage und bietet sich thematisch nicht immer an.

### **Gibt es einen Wissenschaftsladen-Typus?**

Eigentlich nicht. Am ehesten könnte man sagen, es handelt sich um Generalisten, Leute, die sehr breit gefächerte Interessen haben, gerne interdisziplinär arbeiten und mit unterschiedlichen Personengruppen zu tun haben, sehr praktisch orientiert sind und auch ihre persönlichen Forschungspräferenzen zugunsten anderer zurückstellen können. Sie müssen auch innovativ kommunikationsfreudig sein. Darüberhinaus gibt es in diesem Bereich - wie die Praxis beweist - recht unterschiedliche "Typen", eine strikte Kategorisierung ist daher nicht möglich.

## **Interview 3**

### **St Francis Xavier University – Antigonish, Canada**

Interview with Prof Tony Davis, director of Social Relationships for Sustainable Fisheries (SRSF), December 2000.

SRSF was established late in 1999 to help deal with the decline of fisheries in the Nova Scotia. SRSF is a partnership between St. Francis Xavier University and various community partners in the region, as part of the Community University Research Alliance. The project is based in Antigonish, Nova Scotia, but partners are situated throughout the whole province. The project is also part of a network with other universities in Atlanta and other parts of Canada. The aim is to enable small communities to engage in partnerships which will help to secure their future livelihoods. The project also hopes to help communities engage in the research process.

The organisation is mission and results oriented with a focus on the realistic uses of social research. The project is mainly funded by The Social Science and Humanities Research Council of Canada, with some support from the University. SRSF is managed by a steering committee. Decisions are made consensually within the project.

For clients (groups) economic regeneration in the area would be a primary goal. Success for the project would mean longer term opening up of the universities and skilling people in communities. Already fishing organisations are gradually assuming a more direct role in the management of marine ecosystems and resource harvesting. Success for the University means quality research being produced, an improved reputation and the ability to put something back into the community in which it is based.

The project hopes to establish sustained and collaborative working relationships between the University, community organisations, industry and other relevant bodies. SRSF will help community organisations build skills, including business and organisational skills and research skills, which will enable the groups to become more involved in the decision-making processes.

## Interview 4

### Kubus –Berlin, Germany

Kubus besteht seit 13 Jahren und arbeitet im Themenbereich Umwelt. Die ursprünglich im Mittelpunkt stehende Idee eines Bürgerservices wird nicht mehr wahrgenommen. Dafür gibt es jetzt in Berlin ausreichend andere Einrichtungen, bzw. Zeitschriften wie Ökotest oder Ökobau und andere. Am Anfang wurden viele Fragen einzelner beantwortet, jetzt findet die Zusammenarbeit viel stärker mit Verbänden und Initiativen statt. Diese Entwicklung hat sich von selbst so ergeben, als es sich zeigte, dass das Bürgerservice von Kubus nicht mehr gebraucht wird, wurde es auch nicht mehr beworben. Vieles im Umweltbereich ist jetzt im Gegensatz zu vor 13 Jahren institutionalisiert und/oder gesetzlich geregelt. Die Klärung von Asbestproblemen beispielsweise, was früher häufig angefragt wurde, wird heute von den Wohnbaugesellschaften selbst in Auftrag gegeben.

Die Position an der Uni hat sich insofern verändert, als Kubus anfänglich eine Stabsstelle des Präsidenten war und ihm direkt unterstellt, jetzt integriert ist in die Zentralstelle, wo alle Transfer- und Weiterbildungsagenden gesammelt sind. Kubus ist ein autonomer Teil der Zentralstelle, die insgesamt 16 MitarbeiterInnen umfasst. Diese Überschaubarkeit lässt laufende persönliche Kontakte zu und ermöglicht gemeinsame Projekte.

Nach einer Versuchsphase am Anfang wurde Kubus als fixe Einrichtung an der Uni etabliert in der finanziell und personell gleichen Ausstattung wie heute, zu 100% von der Uni finanziert. Drittmittel werden für den Projektbereich aquiriert, sie machen zwischen 10 und 40% des Budgets aus. Sehr häufig werden Studierende eingebunden.

Seit 7 Jahren besteht betreut von einem studentischen Beschäftigten eine Diplomarbeitenbörse. Hier sind laufend 60m bis 100 Themen zur Vermittlung gesammelt. Die Diplomarbeiten werden in ihrer Entstehungsphase nicht von Kubus sondern ausschließlich von den Lehrenden an der Uni betreut. Hilfestellung wird höchstens bei der Suche nach einem geeigneten Betreuer gegeben. Neu ist jetzt der Versuch, die fertigen Diplomarbeiten über eine Internet-Präsentation zu vermarkten. Es ist an eine Aufwandsentschädigung für die AutorInnen gedacht.

Auch in die Projekte werden häufig StudentInnen einbezogen. Projekte betreffen nicht Forschung, sondern Workshops, Erarbeitung von Materialien u.a. Die Projekte werden über die laufend gepflegten Kontakte im Umweltbereich selbst initiiert mit Partnern außerhalb der Universität, Kubus übernimmt dabei Vermittlungs- und Moderationsaufgaben. Grundsätzlich sollen die Projekte praxisorientiert und kooperativ sein.

Neben der Diplomarbeitenbörse stellt Kubus im Internet einen Umweltkatalog zur Verfügung, der das umweltbezogene Angebot der TU Berlin umfasst und entsprechend verlinkt. Die TU Berlin ist mit 30.000 Studierenden und 4000 Beschäftigten sehr groß und für Außenstehende nicht durchschaubar. Kubus hat daher für das umweltbezogene Angebot Rubriken gebildet und die Übersicht ins Netz gestellt. Diese Initiative ist erst seit 6 Wochen im Internet, daher kann sie noch nicht beurteilt werden.

PR:

Neben der Präsenz im Internet wird der Bekanntheitsgrad von Kubus vor allem über persönliche Kontakte aufrecht erhalten. Der Bekanntheitsgrad wird als mittel eingestuft und immer wieder mit Initiativen zu vergrößern gesucht. Die MitarbeiterInnen versuchen, festzustellen, was die aktuellen Themen sind und organisieren dazu Treffen mit möglichen KooperationspartnerInnen, z.B. wurde das gemacht zur Agenda 21. Die MitarbeiterInnen sind im Umweltbereich sehr gut bekannt, sie sind inoffiziell bzw. ad personam in den lokalen Agenda-Gremien oder beispielsweise im Stiftungsrat der Stiftung Naturschutz.

Für die Suche nach KooperationspartnerInnen gibt es außerhalb der Uni keine Probleme, aber innerhalb durch Einsparungsmaßnahmen. Die Uni streicht viele Stellen beim wissenschaftlichen Personal, sodaß die verbleibenden keine Zeit mehr für kleine Projekte, Workshops etc. haben, weil sie schon mit den laufenden Anforderungen von Lehre und Forschung mehr als ausgelastet sind. Das ist seit 4 bis 5 Jahren so. Die Struktur der TU Berlin war immer auch auf Interdisziplinarität ausgerichtet, das wird jetzt zurückgefahren. Durch die Maueröffnung ergaben sich Doppelbelegungen in einzelnen Fächern, die TU Berlin geht jetzt in eine striktere technische Richtung auf Kosten interdisziplinärer Aspekte. Die Einsparungen betreffen auch die Studenten, die um 25% abgespeckt werden sollen. Eine Zeitlang können Studierende durch eine direkte Beschäftigung in Projekten gehalten werden, aber auch die Mittel der Stadt sind begrenzt. Fördermittel zu erhalten dauert sehr lange. Faktum ist, dass manche Projekte dadurch nicht durchgeführt werden können.

Für Kubus selbst besteht keine Bedrohung durch die Einsparungen.. Die Universität kündigt zwar seit 2 Jahren eine Evaluierung an für alle 4 Bereiche der Zentraleinrichtung. Sicher gibt es Kritik innerhalb der Uni an der Autonomie dieser Einrichtungen. Der monetäre Nutzen, wenn der Erfolg in der Drittmittelaquirierung gewertet wird, lohnt sich sicher nicht. Die Evaluierung könnte das natürlich aufzeigen und wenn dann von den Entscheidungsträgern der Uni die Außenkontakte nicht wichtig eingeschätzt werden, ist es schon fraglich, welche Folgen eine derartige Evaluierung hat. Die MitarbeiterInnen haben allerdings alle feste Verträge, sodaß nur ihr Arbeitsbereich verändert werden könnte. Kubus hat eine Eigenevaluierung gemacht und einen umfangreichen Arbeitsbericht verschickt. Die Haltung innerhalb der Uni wird eher so eingeschätzt, dass nicht unbedingt Partner außerhalb gesucht werden, einige internationale Verbindungen scheinen den Professoren zu genügen.

Kubus hat ein Leitbild erstellt und beschreibt die eigenen Intentionen mit "Nachhaltigkeit", mit dem Bestreben gesellschaftliche Fragestellungen und Umweltfragen zusammen zu bringen, Wissenschaft und Praxis zusammen zu bringen, interdisziplinär zu arbeiten. Personen, die in Kubus arbeiten können nicht gerade als Jutetaschenträger bezeichnet werden. Das hat sich professionalisiert. Trotzdem ist nach wie vor das persönliche Engagement wichtig, die Arbeit grenzt an Selbstausbeutung durch eine Fülle an Mehrstunden. Die Bezahlung nach Uni-Grundlagen entspricht trotzdem. Eine große Motivation ist auch die Autonomie in der Arbeit. Die Arbeit mit PartnerInnen außerhalb der Uni verstärkt die persönliche Qualifizierung, man kann sich mit Spezialthemen durchaus profilieren und in der Umweltszene bekannt werden. Man lernt viele Personen aus dieser Szene kennen, auch die Umweltbeauftragten von Industrie und Kammern, die Unternehmensvertreter grüner Unternehmensverbände, die Ingenieure der Umweltingenieursbüros, sodaß Kubus auch als Karrieresprungbrett gesehen werden kann. Die MitarbeiterInnen machen sich jedenfalls über persönliches Fortkommen keine Sorgen, entsprechend groß ist auch das Selbstbewusstsein. In der Stadt und ihren Einrichtungen ist Kubus besser bekannt und mit mehr Prestige behaftet als an der Uni, dort werden sie weniger wahrgenommen. Die Professoren managen ihre Kontakte selbst und bedienen sich dabei nicht einer Einrichtung wie Kubus. Kubus MitarbeiterInnen arbeiten in Bereichen, wo die Universität nicht mitgezogen iust und sie daher als ExpertInnen profiliert sind. Ein Beispiel ist ein Umweltkonzept für das Friseurhandwerk, das einzigartig ist. Derartige Möglichkeiten könnten sicher professionalisiert werden, wenn die Uni keine Gelder mehr für Kubus zur Verfügung stellen sollte.

Mehr Personal zu haben wäre sicher gut (zwei, drei Personen mehr), neben der Möglichkeit, mehr Arbeit zu bewältigen, ergäben mehr Personen der Einrichtung sicher mehr Schwung insgesamt, auch besteht der Wunsch den wirtschaftswissenschaftlichen Bereich zu integrieren mit einer in diese Richtung qualifizierten MitarbeiterIn.

Trotzdem können politische Entscheidungen nicht beeinflusst werden, auch Forschung und Lehre an der uni nicht, dass wäre großwahnsinnig, das zu glauben. In Zusammenarbeit



mit anderen gelingt es gelegentlich, ein Thema zu platzieren, aber die ursprüngliche Intention, Umweltthemen in Lehre und Forschung einzubringen, muß als gescheitert betrachtet werden. Ein Versuch dazu war "Ökoaudit", wo versucht wurde, an der Uni einen Forschungsschwerpunkt zu bilden, aber obwohl 50 Diplomarbeiten dazu entstanden sind, ist die Uni darauf nicht eingegangen. Derzeit gibt es einen Forschungsschwerpunkt "Wasser", wo auch Kubus im Trend gelegen ist, aber die Uni übernimmt das dann selbst.

Erfolgskriterien sind es, Ansprechadresse in der Region zu sein und den Bekanntheitsgrad zu halten. Für die Diplomarbeiten und Projekte gelten die Qualitätskriterien, die dafür die üblichen sind. Erfolg ist, wenn es gelingt Theorie und Praxis zusammen zu bringen und Interdisziplinarität zu erreichen.

Ein Misserfolg ist es, in der Uni weniger bekannt zu sein als außerhalb, auch ein weniger gutes Image zu haben. Die Kontakte und die Aufmerksamkeit an der Uni sind zu gering. Qualitätsstandards sind kein Diskussionspunkt, weil die wenigen MitarbeiterInnen Einzelprobleme ausdiskutieren können und andererseits die Themen zu breit gefächert sind.

Konkurrenten gibt es in der Beratungsszene, die Ingenieurbüros. Das wird aber dadurch ganz gut gemeistert, als Kubus nicht wie ein Wirtschaftsunternehmen auf seinen Gewinn schauen muß und daher auf die Rücksicht nehmen kann, die damit Geld verdienen müssen. Kubus kann die Praktiker mit ins Boot holen und bezahlte Aufgaben ihnen überlassen. Die Arbeit von Kubus soll Modellcharakter haben. Wenn aus dem Modell Daueraufgaben entstehen, sollen die entweder innerhalb der Uni oder in den Ingenieurbüros abgedeckt werden.

Als grundsätzliche Methode kann festgehalten werden, dass Kubus auf Impulse reagiert und gleichwertig selbst Arbeitsfelder aufschließt. Kubus versucht zu erkennen, was Thema ist, sucht Partnerinnen dafür, geht auf sie zu und versucht eine Zusammenarbeit mit der Uni zustande zu bringen. Gemeinsam wird dann festgestellt, worin die bestehen kann. Zur Hälfte ergeben sich dann Tagungen/Workshops/Arbeitskreise/Netzwerke und Projekte. Die Projekte betreffen eine Bearbeitung der Thematik mittels Diplomarbeit, aber auch Herstellung von Materialien wie z.B. eines Videos zum Handwerk. Themen sind beispielsweise Umweltschutz in verschiedenen Branchen oder die Wiedernutzung von alten Computern.

Kubus ist eine sehr spezialisierte Einrichtung, sie macht auch am meisten Sinn in der Verankerung an der TU. Es gibt keinen Wissenschaftsladen in Berlin, das ist auch kein Thema und es gibt auch keine Kontakte zu jemandem, der etwas derartiges einrichten will. Es gibt sehr viele, sehr spezialisierte Bürgerinitiativen und -vereine. Es gibt ausreichend Ingenieurbüros und Umweltberatungsstellen. Es scheint so zu sein, dass bei der Größe der Stadt wirklich jeder auch mit einem sehr speziellen Interessensgebiet Gleichgesinnte finden kann.

Tips und Hinweise für NeugründerInnen:

Ganz wichtig erscheint die Einbindung in den Wissenschaftsbereich mit der entsprechenden finanziellen Absicherung. Auf dem freien Markt eine Einrichtung wie Kubus aufzuziehen wäre sehr schwierig. Wichtig ist die Präsenz in Netzwerken und der eigene Bekanntheitsgrad. Wenn die MitarbeiterInnen nicht selbst bekannt sind, sind Persönlichkeiten im Vorstand, die Kontakte eröffnen können, wichtig.

## Interview 5

### Community Research Exchange – Manchester Metropolitan University, UK

- How and why were you set up?

We were set up in 1983 as Research Exchange and it was just an agreement with community studies at MMU - Manchester Metropolitan University - other departments thought it would be a good idea and joined in and it really evolved. It was not set up as a cross-institutional organisation.

- How developed?

We are now Community Exchange, since 1989, which includes all four universities here in greater Manchester. In the last three years we have grown and become more proactive. Before we would find the projects and the students would just opt for them. What we do now is find ones to fit the courses.

- Successful?

Pretty successful, the number of students we match with projects has increased tenfold in the last three years. It seems to work very well.

- Do you judge your success according to the number of projects placed?

To some extent, yes. That is the easiest way to judge ourselves. The more difficult way is to see whether the project work is satisfactory to the organisation they work for, and we do that through questionnaires. It's more difficult, qualitative work and it is more difficult to monitor because there are so many different aspects you need to monitor.

- Clients success?

To get a student doing a useful piece of work. But it varies from one organisation to the next; some always get a student so success for them would be getting a number of students doing project work. It is all relative.

- University success?

They judge us on the number of students we are providing opportunities for; it is a quantitative thing.

- Funder?

Pretty much all funded by the four universities. We do get a little bit of external money from CSV [Community Service Volunteers] and from The Granada Foundation. But it is 90% university money.

- Biggest Success?

The increase in the number of students taking up projects meant we have become a service a lot of people in the voluntary sector know of rather than something more marginal.

- Biggest failure?

Not getting much external funding to help support the work we do, it would be good if we could get more external money. We have tried on a number of occasions but have not been that successful in that.

- Biggest difficulty?

Convincing all the various parties that it is a worthwhile thing to do. The academics are suspicious of it because it creates unknowns for them which they worry about. With the

students it is a matter of convincing them that it might be a bit more work doing a real live project, but it has huge benefits for them. The organisations are less difficult to convince.

- Funding a problem?

We are pretty much guaranteed a core amount but that core amount does not really cover our costs so we are always looking to make our case for having cost of living increases. Also, because of the increase in the amount of projects we place, we need a little bit more funding each time just to make it viable. So it's not exactly secure funding wise! It's another pull on our time and resources having to prove we are value for money and lobbying in various directions, it is something that you could do without having to do.

- Publicity with staff?

We publish a directory with all our projects in it, that goes out twice a year, and then between times it is mostly email to individuals. We do sometimes do a group email but they are difficult, they have to be approved by the universities and we find people don't read them.

- Student publicity?

Through presentations on courses is a large amount [of what we do to attract students] and that is probably what they remember the most. Academics and tutors ask us to come and talk at lectures but also we are at all the careers fairs and various work experience events that go on throughout the universities calendar. Also publicity through the careers services, making our leaflets available and getting careers advisors and tutors to let students know about the information.

- Community Publicity?

A lot of that is word of mouth, building up networks. Contacts lead to other contacts although we do get new groups from mailing lists. Organisations we have on our books, the ones we work with regularly, we phone them at least twice year just to update our records and stuff.

- Demand and supply – more requests than people to fill them?

Used to be the case, very much so, now it is less the case. It is more a mis-match of demand. The type of projects that students are looking for is not necessarily the same as the ones that are popular on the community side. It is not so much quantity of demand it is mis-match of demand.

- Publicise results?

No, that is down to the individual students or their tutors, and the organisations sometimes do it themselves.

- Quality?

We don't have much input into the quality standards of the individual pieces of work. Intrinsic quality controls are that the organisation is demanding a certain product and the academic department is demanding a certain level of work from their student. So that is the in-built quality standard. We can't really do it because we don't have academic backgrounds in the 100 or so academic departments; we can't really be involved. The service and responsiveness of the students we do survey that with questionnaires and we try and built that in to when we talk to students we try and get students to anticipate the problems that might come up when they are doing the work.

- Induction with students?

We quite often will do an induction session with a course of students who are doing projects through us and similar type projects if the tutors will let us. We also give them an information/guidance pack and do a presentation related to the guide so the students will have that.

- Typical project process?

First thing we talk them through the project and either get them to write or we write for them a project that will be appealing to students, just three or four lines on what the project brief is and once we have got that we put it into our directory and also onto our website. Some project we select to put forward to various courses where we know student are looking for projects and we select those, with the input of the tutor, and tell the students that they would be suitable for their course and that is one way. Otherwise students chose them from the project directory and the web and we provide them with the initial contact details of that organisation. They select three and have a chat with the organisation to make sure their needs are the same as the organisations. Sometimes what they interpret from that snapshot brief is not quite what the group had in mind. The next stage, once they have decided they are going to do the project, is more detailed negotiation phase of what the outcomes of the project will be. The guidance pack we provide to students gives them general information on how plan their project and there is an optional pro-forma contract that they can make between the organisation and the student involved to make sure they have agreed everything. But that is optional, because generally they make some kind of agreement but to use our pro-forma is optional because sometimes it is just not suitable. They all make some form of agreement on the outcome but using our form is optional, it is more for guidance. They do tend to use the general things on our pro-forma but don't use it in our format. That should normally be agreed at least between the organisation and the student and normally the tutor as well. They will read that, sign it, and make sure it is academically suitable.

- When the project is over?

The student hands it in to their department and they are supposed to hand it over to the organisation, but sometimes we have to chase them up on that.

- What if the group has a question about the research?

Normally the projects are fairly self sufficient and the students and the organisations will sort things out among themselves. But if there is something which for some reason, it is normally a breakdown in communication or misunderstanding of some sort then we will intervene and the organisations do ask us questions and some tutors will ask us to contact the organisation mid-way through the project to make sure it is going the right way.

- Competitors?

The only competitors are the other organisations who are providing work experience opportunities and there are various other ones, the Work Experience Bank, and things like that. But I would not say it is like a dog eat dog kind of thing. Students will opt for one or the other and we are not going to discourage them from [going elsewhere]. The main edge they have over us is that if students are doing work experience then there can be payment involved while none of our groups have that. It is a voluntary basis.

- University based making a difference to operation?

Its difficult to know if the fact we are based in the university or whether I as a manager have worked a university before so it's the way I operate within it. I don't think it cause major problems or major changes in the way we do things, although it meant that we are quite university orientated, we are trying to please the university but that is more the fact that they are the funders. But I often think we take on the role of defending the organisations from the excessive demands of the university. We act on behalf of both parties.

- Community groups respect more because in university?

They might respect the fact that we come from somewhere where we are a useful resource. If we were not connected to the university then they might think well what is this you are offering, but because we are connected to the university then we have names behind us. We

can say we offer students from 4 universities and that has a certain kudos I suppose. But not all organisations will agree that students are the most reliable people to work with.

- Part of university?

I like the fact that we are an independent charity and I always introduce us as an independent charity funded by the four universities. Our Board of Trustees has a majority of members who are from the university. We do have a certain amount of independence. We certainly don't fit within their structures like personnel etc.

- Science Shop important and value for the community?

Yes, definitely provides value it is a resource that the community would not have otherwise and the knowledge that the students we provide, provide for the organisation is something far beyond the costs to the universities. It is a good way of transferring resources from the university to the community. The university also benefits, from the point of view that their students benefit from the experience.

- Impact?

Yes, there are organisations that have changed the way they work, the way they deal with their client base, or the way they are run because of the things that the students provided. For instance, students provided databases or management systems in organisation it makes them more efficient and effective.

- External impact?

Research type projects, for example on environmental issues has affected the way organisations have used that information when lobbying local councils for example. There is no major thing. All the research is an extra piece of work that the group can use to put forward their case.

- Political decision making?

It does have a cumulative effect, all these little bits of research.. I could not give you an example. I could not say Manchester has changed so and so because of anything we have done.

- What is special about working in a Science Shop?

The variety of different stakeholders that you come in contact with.. You're working with academia, you're working the voluntary sector and with young people who don't have much experience in the things they are working with.

- Work there again?

Yes, I would definitely recommend it as a job to other people.

- Special about Science Shop workers?

There is a lot of freedom and you need to be self-motivated and people friendly. You could sit there twiddling your thumbs and not achieving anything. With no one there measuring your productivity you need to be fairly self motivated to make it work.

- Typical worker?

Someone who is comfortable talking to various other people. Does not mind talking to various groups of people, that is key. I think the people who work there believe in community empowerment and the value of it – I would not have noticed extreme passion, but I think they believe in the importance of it.

- Tips and hints?

To build up the network. You have got to have a huge great client base on both the university side and contacts [on the community side] who understand what it is about because you have got to be able to match the various needs. You have to have a big bank of contacts.

- Essential?

You could not do it without the contacts and you have to go through various organisations and talk to lots of people and networking, that is the way you build up contacts and I don't think you could do it without that.

- Local network – benefits?

Exchanging ideas and good practice is useful. I don't think in that network [Council for Citizenship and Service Learning] you are dealing with the stakeholders in the work, so it is not going to create avenues of work. It is useful to exchange idea.

- International network – useful?

Difficult, there would be some use in it but I am not entirely convinced it would be an efficient use of time. If there was a way where by working together people could pull down some funding for there types of organisation [Science Shops] then yes that would be useful.

- International network – training for staff?

That would be useful, but I am not sure having been here for three years what I could learn from that type of network. But there is a real danger with organisations [science shops] being so small that the whole organisations exists within one persons head and when new people start organisations [science shops] and new people take over existing ones people need to be able to have some sort of induction and training to give them a kick start.

- More staff?

The key thing would be selecting key sectors of the voluntary sector and doing an audit of what their needs are so that a lot of time the organisations self select and although we do give them spurs in various directions the organisations very much self select what kind of projects they want done. But I sometimes thing we could provide them with more support if they knew what was available to them and I think if there was someone going in and doing an audit of the organisation, finding out in depth about the way they work and the way they tick and what they are about may pull out more opportunities for research development.

- Reject research requests – no way they would be able to complete research?

No, there are some organisations we wont' work with, more like individual we won't work with because the students have had bad experiences with the organisations. We don't just go with what the students say; it's normally if we have a similar bad experience happening once or twice. It just damages relationships if students keep having bad experience in organisations – but it is very few

## Interview 6:

### Action Connection, Edinburgh University, Great Britain

- What is your project called?

It is called Action Connection.

- Can you tell me how your organisation was set up?

Well, if you're talking about this project, then it arose out of a sister project which was largely concerned with straight forward student volunteering – people doing a couple of hours a week in a nursery school, old folks home, whatever. There was a desire to work with course related community based research, but that was a wish rather than an actuality. To a large extent for quite some time there was an initial pilot which was quite successful, which hadn't the resources to continue at the same level, so when I came in there. Actually wasn't a great deal of activity. I think that's its fair to say on that front, so I thought that this was something that could be progressed Initially within that project but it has proved something that I think has developed its own momentum and to a certain extent its own identity. So that's why it is really a free standing or distinctly separate at least, element of Edinburgh University's work.

- When did it gain that distinct identity?

I would say that has developed over the last 18 months/2 years perhaps – that sort of scale.

- What sorts of things have happened over the last couple of years?

Well we have been quite successful in terms of student numbers. I mean drawing from a ground zero base if you like and certainly the last academic year we would close on 30 students. This year it's a little bit less we're standing in the 20's at the moment. But still there's quite a lot of interest among the University staff – University staffs I should say, as we're now working with Queen Margaret College, Napier and Harriet Watt. That degree of interest has increased and that is quite encouraging.

- So, when you are judging success you are looking at student numbers?

Partly its student numbers, partly its completed, successfully completed projects, partly at, if you like the profile of the project within the academic community because I think its something and also among the community groups as well because its obviously something that one wants all the parties to be aware of – have a sense of valuing it both from their own particular concern maybe, but also from other's concerns – whatever that be students looking at what the organisations are gaining or organisations seeing University as having a role to play in helping them with their work.

- How do you think your clients would judge the success of your project?

I think they would possibly judge success from a community group's point of view is the kind and the quality of the research they get out of it, the qualities that a student may bring to an organisation, they may have a fresh perspective on things, they may stimulate the organisation its self simply by asking questions and looking at things a little bit differently perhaps.

From the students point of view then obviously to get a successful dissertation is a major element of that but I think also in terms of introducing them to the organisation and people and ways of looking at the world that they might not otherwise had am opportunity to glimpse.

- From the University's point of view, how do they judge the success of the project?  
I would say its certainly in terms of successfully completed projects but also to some extent I would think, at least I would hope to some extent how they are perceived in the wider community.

- What do you think funders are looking for?

That's always a hard one. I think again we are looking at, to a certain extent because of the type of climate we're all living in at the moment, obviously we're looking again at successfully completed projects. Students who worked through dissertations but also again probably looking at it in terms of potential capacity building for community groups and the ability of those groups to begin engaging in research on their own account.

- What would you consider to be your biggest success to date?

That's quite hard to say. I mean I think if you try to single out an individual project that it's a little bit difficult, but I think we've had a couple of quite interesting projects were students have gone into and worked with groups from the ethnic minority communities. We'd one student who worked very successfully with the Indian Dance Collective and another student who worked with a Sikh community group in the Leith area of Edinburgh. So, those I'm rather pleased with because in both cases it meant working with a group that probably, those students wouldn't have had an opportunity to encounter.

- What about were things go wrong?

Things I think go wrong were, in my experience, there's a misperception between the organisation and the student which since I'm kind of the introductory individual, I haven't picked up on it quickly enough and that's, I think tended to be where either the student has had perhaps a rather too idealistic or perhaps naive expectation of what they're may be getting out of the organisation or the organisation has perhaps expected more from the student based dissertation than they could reasonably hope to do and its that kind of thing. I've been quite fortunate in that its only gone significantly sour on two occasions among about 50 plus students, but obviously when you're dealing with someone's dissertation and therefore their degree prospect, then it's a matter of considerable concern if it does start going wrong.

- What makes your work difficult?

I think what makes it difficult is actually trying to explain what I'm about to people who aren't necessarily very keyed into the ethos of a project like this. So on one hand its quite easy to say well what we do is link research voluntary organisations with students in their junior honours or post graduate years and so on. But of course you're actually talking about trying to change the value systems of three quite distinct groups of people in a positive way – without sort of beating their heads off a wall about it and kind of drumming it into them, and if people pick up on the ethos then its quite easy to explain what it is about, but if people don't, then it becomes quite difficult so it does make life difficult if you're dealing with that kind of mindset that doesn't really key into what you are doing.

- What about setting quality standards, you know for example, how long a project will take or in terms of mediating each project?

Sometimes that's quite easy and straightforward to do something like that because as you're rightly suggesting, all these projects are time limited. So it's a question of what can be achieved within that six month or whatever period – Is that going to meet the needs and objectives of the organisation as well as meeting the academic requirements of the student and the department. So sometimes that is quite straightforward because it is basically trying to achieve a 'best fit' from all parties and then its relatively straightforward to try and monitor were the progress is being made or were there are problems arising, but not always so. I think its in the 'not always so' category that it all becomes rather more difficult to measure the



quality of what's going on. Sometimes it's obvious from if you like – the student's personal development. So, if we have that then we can sort of say well at least that is happening and provided the academic requirements are fulfilled, at least that side of the equation is being fulfilled. But perhaps other sides aren't and then you have to look at that again. To a certain extent, it is obviously that's got to be very subjective, to a certain extent. But obviously, again there, as I'm suggesting at least academic requirements do figure largely in the picture.

- Do you use evaluation forms with the groups?

I'm actually – we're in development with that as it were. What I'm actually using at the moment is the Northern Ireland Office's, the voluntary participation unit's monitoring and evaluation model which I think very highly of. Its not an absolute fit for what I do obviously, but then none of these things are. So this is really why I'm saying its in development because its something I am think I still testing out – you know to make it more appropriate to this kind of work, but its certainly very useful.

- Can you describe for me the process you go through from when a group approaches you, or from when a request comes in until it is completed?

Ok, this is the kind of thing I'm not quite sure if there's such a thing as a typical one but If it was typical like that and in my kind of ideal world – I would receive a request from an organisation, what I have is a very simple pro-form that any organisation can complete - quite a large portion of which is to describe the kind of research, what would be done with it and some indications of timescale and so on. Having got that I would probably contact the organisation, again probably by phone, possibly make a personal visit and go through the request and see if it needed any amplification or if it was broad ranging to narrow down the focus to make it a little more suitable to present to a department - that kind of thing.

There might be other elements involved in that depending on the kind of organisation. There m might be a certain very basic level of risk assessment involved with certain kinds of projects if it was particularly environmental project for instance or you know a client group, representing a client group, which might present challenging behaviour shall we say, they might be some small question but its not something that I would necessarily go into in large depth but I would probably be noting it as we went along.

So, assuming that we arrive at a question or research proposal that seems viable as a dissertation project, I would then have that on file. I would contact the appropriate department and see if I could identify somebody who would be able to put it in front of students. Sometimes that happens sometimes it does not.

If it is put forward in that way, then I would be working with a particular person. If they were the student's academic supervisor then that would be fine. Sometimes it isn't the case and I'm working with maybe a head of department or someone is overall in charge of third year project work or whatever.

So it might be that they suggest a student or a student is presented with this as a possible research topic and takes it up in which case they would come to me. Sometimes students will come to me off their own bat, on the basis of 'I'm looking for a dissertation topic and I believe that you might have something to suit me'.

In the first instance and indeed in the second instance that student picked up on a research project, what I would do is arrange a meeting with a representative of the organisation, and the student and in an ideal world – and I'm stressing an ideal world, the academic supervisor. I think I once had an academic supervisor who actually turned up at one of these meetings – bless them. I s not that they're not interested or its not that they don't care, its just the pressures of flogging out to wherever for a half hour meeting which can be a big chunk of your day and I can understand all that certainly. Anyway, there is at least I, the student and a representative of the organisation.

The point of the meeting is to introduce the two parties to each other and get a sense of how they're going to work together and also more importantly, in a sense to arrive at a form of words that we can all be comfortable with, that will basically encapsulate the nature and the purpose of the research so that we can say well it is actually well its 2/3 sentences worth and its about 'X' that's it and we're basically hand fasted at that point. That's why I think the personal meeting is quite important.

Its something that we can walk away from feeling that we know where each party is that isn't always the case unfortunately but 9 times out of 10 it does seem to work.

Having done that I would probably be contacting the student depending on the time scale, but let us say a 4/5 month period then we'd be talking about contacting them at roughly monthly intervals, or 6 week intervals depending partly on the nature of what they're doing and partly on how I feel. The student is going to progress because obviously, with some people they're very confident and they may have worked in that area themselves before, they may have a prior knowledge of some sort of what they're taking on and they're quite happy to be left more or less on their own which is fine. Other people, at least initially require or seem to require a higher level of support and that also as far as I'm concerned is generally fine. Once or twice I have encountered people shall we say unusually needy and that's the nature of things and the more students you have going through the process, then the wider range of responses you're going to encounter.

So there you are. I'd also be keeping in touch, possibly not quite so often but 2/3 times through out the duration of the project, with the organisation to get a sense of how they feel its progressing and those would be my major contact points. There would be contact with the department certainly I want to insure that the person who is the academic supervisor was aware that the student was progressing their dissertation in this way and that I had a certain interest in insuring that they went ahead in an effective way, but having said hat I always emphasise to all parties that I'm not an academic supervisor in anyway. Neither am I a work place supervisor, I'm there to 'hold the reigns' if there are any difficulties or to be used as a sounding board if that seems useful, but I'm not there to do any form of supervision of any party. Ideally when we reach the point of completion I like if possible to get a copy, either of the completed project or at least a summary version of it and to ensure obviously that the organisation concerned get a copy as well and if it's a question of a summary then access to the fully completed piece of work is available to them as soon as possible. That's essentially the process.

- In terms of the informing people of what you do – whether about the end result or just communicating with students, how do you do that, how do you publicise the results? Not nearly as well as we should be is the short answer. I've been in negotiation for a proper web site for about 12 months but that would certainly be a why of doing that because our sister project has a termly newsletter which is circulated on campus that is certainly something I do to publicise the work. We have had mentions in 'Third Force' which is the Scottish Council for Voluntary Organisations newspaper. Its like 'The Stage' for the acting profession with jobs and snips of gossip – so we have had bits and pieces there and also in The Times Higher Education supplement – so those are the sorts of things we have done to publicise the project.

I think certainly the major push at the moment is toward the web because also That will make research findings available to a much wider group. I'm particularly keen that as much as student involvement its also about dissemination of good practise, best value and all the other nice little buzz words that we're encouraged to use at the moment.

- Would you consider that your project had any competition? Yes and no. As somebody who is very well placed indeed in another sector entirely once said, 'We have no competition only colleagues'. To a certain extent that's true – I mean there's a project over in Glasgow which is based around the Glasgow council for the

voluntary sector but it is very tied to Glasgow at the moment and it is rather smaller in its numbers, but we're very similar and we have co-operated and collaborated quite a bit and we certainly provide each other with information. So, I don't really see that project as a competitor. I am aware that the whole area of student based research and research for the voluntary sector is an area part way through the growth of the information society that there could be a certain amount of friendly rivalry shall we say to some extent I think that could be a good thing in that it sharpens everybody's practise a little bit more than it might be - I mean competition is not all bad but obviously at the same time one has concerns about the amount of potential for research that there actually is and to what extent some organisations may find themselves researched to death almost. So there are those kinds of concerns certainly.

- Do you consider your project to be University based?

Yes I do. I think if we're to be honest, absolutely honest, we're probably more University based than community based. But I would see it as part of a well what I would like to see is a movement towards a kind of a community liaison approach. That would on the one hand be quite pro-active so that would be the idea of moving out in a positive and friendly manner towards the community and saying - 'we have resources to offer you, you have resources to offer us and how can we best use what both of us have in order to maximise the benefit to build a better community, essentially for everybody. So, we're all living wherever we're living, we'd all like it in one way or another to be a better place – what can we do about that. But having said that I'm quite conscious that the researchers I work with are students, they do have an obligation to produce course work. I think that at the end of the day, their own futures have to figure significantly in the picture. So from that point of view then I would say, yes we are University based.

- Do you feel part of the University?

Yes up to a point. I mean I think that the other thing to bear in mind is that one is trying to mediate between 3 quite distinct sets of agenda:

1. The agenda of the organisation.
2. The agenda of the specific student.
3. The agenda of the University.

At the end of the day the 3 agendas are not only separate, but in some respects are completely, perhaps not completely at odds with one another but have very few points of actual contact. That can make it difficult because that's not something you can readily unpackage to any of the parties concerned. So it can get a bit lonely shall we say.

- Do you think there would be a difference between University and non-university based projects?

I'm not quite sure how to take this question so what I'm going to suggest that ultimately there is a distinct difference between my own project and my friend and colleague's in Glasgow's project. Hers is very much grown out of the Glasgow Council for the Voluntary Sector and is very much focused towards the needs of the communities that she works with. Mine grew from a university settlement, within a university and therefore its birth and infancy have been within that setting. So then it really is back to what I was talking about the quite distinct agenda that we're essentially 90% of the time working towards the same objectives and don't have a problem in the kind of priorities we're setting and the kind of priorities we have but when you come right down to the rock bottom, then her project began with a voluntary sector umbrella group and mine is within a university.

- I suppose a slightly broader question, but around this university /community sector issue – can I take it that you feel the work that you are doing in the project has value for the community although you have the university base?

Oh absolutely. I most thoroughly believe that it has value for the community and I think it has something that the community organisations can benefit from very much in a number of ways. I wouldn't be interested in pursuing it if I didn't feel that.

Obviously, the kind of level of research is not necessarily as high as you might get from a professional research organisation or perhaps from a department. I am actually working now towards getting the social policy department here involved at a professional level, in community research which is potentially, I think very exciting but there is never the less a certain amount of research where the kind of 'Pieda's' of this world and the really major research organisations, not only could not be afforded by the community organisations but would be totally inappropriate. It would be like sending a nuclear strike to quell a street corner riot. You know there are organisations that require a certain level of research for their own purposes, they don't require several steps up more that's not to diminish either the research or the organisation or any kind of research they need to do, but what they don't need perhaps is a major half dozen time in motion and H.R. people walking around and telling them half of what they instinctively know already, but just haven't gotten around to articulating it in a particular coherent manner. I think that's the level were a university student coming in with no preconceptions, without prejudice about the organisation can be very very helpful in clarifying people's thoughts because they're not somebody in a suit who is doing this for a living. The students are a little bit more relaxed about it, they're a little bit more humane perhaps – not perhaps in every case but in a number of cases and they certainly have an enthusiasm and interest in what they're doing, at least I would hope so. I think that is the strength from that side and that is the value or part of the value that the community organisation get and I think it also about breaking down barriers and preconceptions on both sides as to what – you know we've got a lot of I don't know quite what its like in Belfast but I know in Edinburgh we've got a lot of students if we ask them to move out of lodgement or the 'New Town' where a lot of them congregate, into other areas of the community to do something, they get nervous. Even if its just a couple 100 yards down the road its certainly unknown territory, the dragons are lurking and that's scary so actually get students out working with organisations in housing schemes in areas of urban deprivation and so on even that itself is a plus.

- Do you think the work might have a wider impact perhaps socially, culturally and maybe economically?

I think there are a number of implications. The first is obviously from what I'm saying that what we're talking about here is low scale social engineering. We're getting people to look at other parts of the community whether that be from the student side or whether it be from the community side. Looking at students and seeing that they're actually not the kind of weird rare creatures they thought they were – there's that level.

There's also a level in terms of the organisation, in terms of building its capacity to actually look at itself in a more critical, genuinely critical fashion, a more reflective fashion and maybe encouraging them to think about its own future direction, growth and development and so on. There's that side and obviously from that you start talking about economic development of one sort and another. Also the other side of it is if you are encouraging people. Some of whom at least and by no means all of them because we've a very large student population in Edinburgh but some of who are likely to be in positions of some power whether it be political or otherwise in another 20/30 years or so. So you're perhaps looking at altering their perspectives as well as I said there's a bit of subtitle social engineering going on.

- Would you be aware of any examples were your had any effect on local level political decisions.

I think we're beginning to get there a little bit certainly in terms of the voluntary sector itself. I think how local government looks at the voluntary sector in Edinburgh. Then I think we're beginning and volunteering as an ethos then I think we're beginning to make a little bit of progress so things like that. Its hard to be specific about how much of an effect that we have. I think we're an organisation, now we're a project that people have a certain knowledge of and think that's a route we could don in terms of looking at the kinds of research we could do firstly our existence and more new projects forward and that sort of thing.

- In terms of working with other people who might want to start a community based research project, would you have any advice for them – any tips?

I'm tempted to offer Mr Punch's advice on those that were about to get married which was don't! That's not being protective, first just that I just wrote a small bit of personal background. I mean I'm embarking on a part-time PhD and I'm on the board of two theatre companies – one community based, one is a professional one which probably is a reflection of the other side of my life. It can be very time consuming and I think the thing I would say to you is budget for the time because you're going to spend a lot of your time to academic supervisors not all of whom will be immediately sympathetic to what you think is a wonderful idea. That will be quite hard and you are going to have to spend a lot of your time trying to publicise and doing 'rara' stuff. You may occasionally spend quite a bit of time informally supporting students so be aware of that and you're going to have to get used to wearing a number of hats to the fact of not everyone loves you every time you lift the phone or type an email. So there are all of those things to take into consideration and you'll probably have to fight for every scrap of funding you get. But I don't think if I say all that I'm telling you anything you don't already know..

- Do you think additional staff would help your project?

I think 1 additional person at least on a part-time basis would be a Godsend and I would take them by the neck and hug them - I really would. It's the fact of a lot of this is 'Face to Face' and it can't really be done any other way. It is not the kind of thing where sometimes you pick up the phone or sometimes you can email people and I do a lot of that but an awful lot of the time it needs to be one to one or small groups. You have to be there and if you are there you can't be anywhere else so if you have to pick up the phone, type an email and keep the wheels rolling is very good. And if you have somebody on the front desk that is friendly, welcoming person who is not phased by the great or the good or the desperately worried and the traumatised then they'd be great you know.

- Are you the only worker on your project at the moment?

I am.

- Would you do it again?

Probably.

- Do you think there's a typical profile of someone who would work on a community based research project like yours?

Depends how psychological you want the profile to be. I think you have to be interested in a lot of things and be willing to take on projects/students that you have qualms about how they're going to work out.

So there's a certain amount of blind optimism and a willingness to gamble. I think you certainly need to be somebody who is good at working with people but at the same time, because of the nature of what you're doing, I think you also have to be quite surgical so that there may come a point that you have to say no this is not working out, this is not going to be a good project, this student is in serious danger of ending up with no dissertation at all or the organisation, there are problems, the organisation is having problems with the student and we have to radically rethink. I mean again that has been a very rare occasion, so you have to be surgical, as there's no second chance you're gambling with too many people's interests and futures to do that too often.

What else, a massive amount of patience can help but also a realisation again when its time to stop. So, I'm talking about some kind of, not quite ideal balance and a sense of being able to work out of what should be other people's priorities without seeming to be too much of a bully. I would say if you have half of those, you're possibly halfway there.

## **Interview 7:**

### **Science Shop History, Groningen, The Netherlands**

#### **General information:**

The science shop was founded in 1984 ( by students, being political involved)

The science shop is still university based but less and less. In the future they are trying to get (financial) independent. At the moment they are investigating the possibilities to form a GesmbH. On the one hand they attempt to reach a financial independent status from the university on the other hand they try to keep a close relation to the university (maybe in form of a direction board with faculty or university members).

The current (paid) staff consists of 7 people ( 4 female, 3 male), 2 of them are employed part time, 5 full time ( between 80 to 100 %).

In general their are also working 4 – 5 student (on projects and for points) – the students work on project that can no be paid by the customers.

The science shop history focuses on history and architecture. Their main themes are: a) local, regional history, b) environmental history, c) history of industry and technology, d) cultural heritage (museums), e) industrial archaeology ( old buildings) and f) history in image and sound.

The science shop offers his service to commercial enterprises, museums (more in the sense of a co-operation and also for fund raising), the local government and voluntary groups ( e.g.: people who want to write down the story of their town, village, but don't know how to do it.)

The science shop puts a strong focus on the project market. They developed the expertise within the science shop, so the staff is doing the research. They also mediate between university and the population. This part is done in the "non-profit – section" of the science shop by the students. Their Sources of funding are: the university, the customers ( factories: for delivered products e.g. books, videos...), the local government, funds.

Their approximate budget, including salaries, rent, overhead, specific costs for projects is 1 Million Dutch Gulden. The science shop also owns a car. The university supports the science shop with around 70.000 Dutch Gulden per years and makes the office space available for them to a very moderate price. The science shop pays around 20 % of the rent, the rest is covered by the university.

#### **Development over the years, process of development, the state of the art**

The science shop was founded in 1984, by around 12 students. It came out of the students movement, more from the left. In the start it was a foundation. In the beginning they worked for free and the science shop was not accepted by the faculty of arts. The staff did not get any money from the university, but they could use a room (more a room in the cellar) After 1986 it was accepted as a science shop by the University. After that the students also worked for credit points. The science shop started of as a non profit organisation with the mission to mediate between the faculty of arts and the population (classical science shop – or as one might say " old fashioned science shop"). That's how it worked from 1986 till 1994 (with only students and one half time co-ordinator – from 1994 the co-ordinator was employed 80 %).

In 1994 there came together three factors that generated a development that's still ongoing.

1. The university stated that they did not intend to spend more money on the science shop, rather less to carry out the non-profit task. The science shop had to look for money from outside the university.
2. The traditional group of customers (e.g. trade unions) got more money due to the prosperous economical situation. This enabled them to pay for the research. There was also a motivation to ask them for money.
3. The unemployment rate of historians was very high. There was an attempt to build up a science shop for and with historians. There was a drive to let them earn more money – more commercialising.

The science shop got more and more project oriented (paid projects).

This development is continuing till now with the future perspective of forming a limited company. Another reason for the tendency to separate from the university is the increasing bureaucracy (on the side of the university) - it is hard to operate, it takes a lot of time, they are trying to get rid of the bureaucracy, to become more flexible.

### **Success**

That is a good question. It is easy for us to measure the results. We have deliverables, products like books, videos, CD-ROMs (the finishing of these is a success) You can see it, you can read it. When we are making an exhibition in a museum you can count the number of visitors – this tells you about success, also the reactions of the visitors. We are not solving environmental problems, we have another strategy. Success is also the feeling that people who you are working for have more grips for /on their own history. When people are uncertain what the future will bring, their interest in history rises. People get more grips on their situation by giving them information on history.

### **Success for the faculty/university**

The faculty thinks that we are very important, But it seems to be more a form of "window-dressing" .. They can show of with us. We can show (the faculty) what kind of products you can make with historical research, kind of output.

### **Failure**

A project fails. A feeling that a project that your made, did not meet the expectations of the customer. And sometimes the customers tell you.

### **The biggest barriers, the biggest obstacles**

The main obstacles for a couple of years now are on the one hand the bureaucracy from the university. It is hard to invest in research (pre-research) for yourself, there is no budget, and the university will not lend you money (e.g. for pre-research to find a new market), on the other hand it is more a problem of the society. Institutions or companies are not really convinced that you have to pay for historical research (e.g. biological or chemical research is important, there is money for it, they are paying for it.) There is a kind of prejudice against historical research. In the sense of that it is no real science, everybody can do it (e.g. director of a factory who says he is going to write the history of the factory by himself). There are a lot of discussions on the value of historical research. There is a difference between professional historical research and amateur historical research. It is not really easy to get money for professional historical research. The expectation of the discipline is a problem. There are also discussions about the books, the content of it (e.g. government, companies). They are afraid of the results of historical research, especially when it comes to the 2<sup>nd</sup> world war and questions of collaboration with the occupiers. There is a lot of discussion.

### **Public relation, how to attract requests / projects, communication.**

We have a web page (Url: [uu.Geschiedeniswinkel.nl](http://uu.Geschiedeniswinkel.nl)) since 1998, and we are counting the visitors of our webpage (for the moment 20 per day, our aim would be 50 per day in the future), it is a very simple one, but we are planning to extend it, to add video.

In addition we have a leaflet, a general one, a kind of map where you can add sheets with specific information.

We are members of networks, which are very important for us. The results of our projects are generating new projects. A kind of word of mouth that is very important for us. We have at the moment 8 projects in the middle of Groningen (the province). People see something we did, they talk about it, and this generates new projects.

We give lectures (2-3 per year) for students, they are part of the curriculum (e.g. on environmental history or audio-visual history)

Communication with the customers:

Depending on the duration of a project it is divided in several parts. E.g. If the project duration is 1 year we meet with the customers every 2 month, we talk about the results, the direction of the project or we propose changes.

We always do an evaluation, depending on the kind of the project.

If the project was the organisation of an exhibition there is a first evaluation right after the closing of the exhibition. We talk about the process, the co-operation, the direct results. And there is a second evaluation after around ½ a year: There is information/discussion on the number of visitors, and on their reaction (our target group is also the visitors).

If we did a book there is only one evaluation (the results, the process, the co-operation, it takes around 3 hours) and of course we have the press releases, and information on how the book is sold.

### **Working Methods**

The mediation is primarily done by students. Our faculty has a bureau de liaison where we place specific requests, also for students to work on specific topics or to carry out a project. We arrange a date with the office and deliver our profile for a student. They search for a student and pre-select 3 – 4 students. Then we talk to them and I take my selection, the one who fits the project the best. We also advertise in the university journal.

Concerning our projects, of course it depends on the project: For those in the 2<sup>nd</sup> half of the 20<sup>th</sup> century oral history is very important. For the middle ages archive research is important. We also do research on/with images (also moving ones) and of course literature research.

### **Quality assessments/ standards**

Normally the fact that we are part of the university is a warranty for high quality. When publishing a book we ask for a critical reading by a specific expert from the faculty. Thus we always try to obtain an independent opinion about our work. We are applying scientific standards.

It is very important to translate the scientific results to a level that can be understood by the general public. E.g. We made a comic strip on the middle ages based on scientific research. In this case there is no scientific version of the comic strip. We have an amount of 1000 of copies of images from the middle ages – for the drawing of the comics. And if anyone is interested in it he can come to us and have a look at it. We made the storyboard for the comic by using this pictures from the middle ages. We got a famous strip painter to do the drawings for the comic strips (e.g. he did a pig after a middle age painting).

We did a book about the history of shipbuilding for the workers in the building industry. It is a book with very few notes in it and there is a 2<sup>nd</sup> more detailed version. And if we make an exhibition there is also a written report on it.

### **Case studies that show the political, economical, social or cultural impact of your work**

We did an environmental research in Groningen. This was a project with a duration of 6 years on behalf of the province of Groningen. We did archive research on soil pollution. The project had an economical and political impact. Till the moment we started it there was no general view on the scale of the pollution in the 19<sup>th</sup> and 20<sup>th</sup> century. It was hard for engineer bureau's to find all the possible polluted sites ( just looking at random). They did not know all the places of the old factories. They did not have a general view where possibly had been pollution (metal...). We developed a method to look at pollution by doing research in the archives. The result of our research was a map of all the places where possibly could be pollution (in the province of Groningen). It saved the province of Groningen a lot of money, it was much cheaper than looking for pollution at random, cheaper than the engineer bureau's. A second example: Once a group of people (10 persons) from a small village in the north of Groningen approached the science shop for help. They wanted to write their own history and needed help to do so. It was quite an experience for me too, as there were people who could not read and could not write. I learned them dealing with history and making something out of



it. I learned them how to read a book and how to look at images and how to interview the inhabitants of the village. It was a kind of social work I did.

### **Competitors**

Yes, we do have competitors. In the Netherlands there exist around 10 offices of free lance historians doing historical research. They are independent from the university and work a 100 % on a commercial bases. We know each other and on some occasions we meet each other. We also apply for the same projects, but it is not really a hard competition. They all have their own special expertise, which differs them form each other ( e.g. one is an expert on writing books). Our advantage is, that we are connected to the university – our academic background. Our aim for the future is not to loosen the ties with the university but to become financial independent.

### **Tips and hints to start of a science shop**

Don't be afraid about difficult situations. You have to be a very good communicator. You have to be very creative and flexible. You need a very good nose for projects. You have to smell and find them everywhere. You have to start with everything, make yourself known. Fast result, you can show in the beginning are very important. Show your ability with the results you have reached.

### **A kind of profile of a science shop worker**

He has to be a very good communicator, very flexible in mind. He has to be able to communicate with the professors, the students, the customers – with everybody. He also has to be used to work independent. Moreover, it can be a lonesome job.

### **Networking**

We are a member of a regional history working-group in a network on a national level. I am the responsible one for the province.. We are also a member of an European network on audio-visual history. We successfully carried out EU-projects. These are all networks of experts.

Moreover we are a member of the science shop network in Groningen (9 science shops), and by this a member of the national science shop network.

## **Appendix 5: SWOT analysis and policy plans**

### **Science Shop for Biology, Utrecht University, the Netherlands**

Caspar de Bok (2000)  
Science Shop for Biology, Utrecht University  
Padualaan 8, 3584 CH Utrecht, the Netherlands  
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#### **Introduction**

Since the start of the Science Shop for Biology in 1978 of course society has changed. Some of these changes influenced the Science Shop as well. Some community based groups became (semi-)professional organizations with their own expertise on environmental issues. There are also more possibilities for individuals and organizations to get advise and information on environmental issues. For the Science Shop for Biology this implicated a shift of research assignments and principals. Research assignments became more complex and principals more professional. Changes had to be made. In 1992 the Science Shop for Biology decided not only to react on external changes but also to prepare for future changes. This led to the idea to make a policy plan.

To come to a policy plan at first at SWOT–analysis (Strength, Weakness, Opportunities, Threats) was carried out by an external office (Reimus and Demers, 1993). Based on the results of the SWOT a policy plan for the period 1994 – 1998 was made (Anepool, 1994). After the evaluation of this plan a policy plan for the period 1999 – 2003 has been written (Lürsen, 1999). In 1999 there has also been an external assessment of the effectiveness of the research conducted as science shop projects (Schiffelers et al, 1999).

#### **Results of SWOT**

##### *strength*

- respect within and outside the University
- expertise in project management and scientific research
- flexibility of the organization
- service to principals, supervisors and students
- work atmosphere (for employees, volunteers, students)
- contribution to and ideas about education and experience

##### *weakness*

- mediation takes to long
- working with volunteers: discontinuity, slowness
- possibilities of the Science Shop for Biology towards Faculty of Biology

##### *opportunities*

- extension of target group
- offering a training program for volunteers and students
- obtaining additive external financing

##### *threats*

- loss of identity

## Policy Plan 1994 - 1998

Main elements of Policy Plan 1994 – 1998 (Anepool, 1994)

- Intention and character of the research question and public relevance are more important than kind of principal.
- Extension of target groups.  
Absence of financial capacity of the principal is no longer a criterion for research although still priority is given to research requests of community-based organisations, especially the small organisations.  
These two points make that also research assignments can be carried out for commercial organisations provided the request for research serves a broad public interest, the results are not used commercially and the assignment fits within the mission of the Science Shop for Biology and its criteria for assignments.  
Results:
  - new principals
  - some principals with financial capacity co-finance projects
- Start of research workshop for recently graduated, and unemployed, biology students.  
Results:
  - research workshop with curriculum of one year was not started within Science Shop for Biology but at the Faculty of Biology
  - the Science Shop for Biology co-ordinates on an incidental base project, financed by principals, in which recently graduated students are employed and trained
- The idea to set up a department 'external affairs' within the Faculty of Biology including the activities of the Science Shop..  
In this way it's easier for all employees of the Faculty to use expertise from the Science Shop for Biology in matters concerning external affairs (e.g. PR, acquisition of external research assignments, mediation, consultation and advising, co-ordination of internship, fundraising).  
Results:
  - contact and co-operation with the Faculty Administration Directorate improved
  - no expansion of expertise in a department of 'external affairs'
  - strengthening of 'external affairs' of the Science Shop for Biology
  - more service for the Faculty of Biology (co-operation in information programs for scholars, participation in discussion about innovations in education)
- Active acquisition of research assignments.  
Results:
  - structural (e.g. yearly) contact with some of the (semi-) professional principals about new projects
  - difficult to get in contact with local one-issue organisations (localization and timing)
- New volunteer policy.  
Before, professionals and volunteers co-operated on a base of equality. Many projects were fully run by volunteers. Some volunteers worked on several research projects. This increased the risk of slow mediation and discontinuity of projects. Now, volunteers will be recruited per research project to work on a specified part of the project. The academic staff of the Science Shop for Biology supervises them.  
Results:
  - (much) less volunteers (due to new volunteer policy but also to general shortening of University studies)
  - mediation takes less time

- less fluctuation in persons working on a project
- preliminary research as a short literature study for students, within the curriculum
- More information about the results of the projects and expertise of the Science Shop towards employees of the Faculty of Biology.
  - more requests from the Faculty or departments for research or co-operation
  - partnership in committee to achieve more community based elements and skills in the curriculum
  - more employees seem to know activities of the Science Shop

Although many changes have been made the Science Shop for Biology stuck and still will stick to the identity it had before the introduction of the first Policy Plan. Therefore it's important to realize that:

- Still priority is given to research requests of community-based organisations, especially the smaller organisations.
- The (co-)financing of research projects is mainly related to the financial capacity of the principal and the kind of request.
- Research projects have two general goals:
  - to make scientific knowledge and experience available to the public and social relevant items
  - to contribute to the curriculum in an active way, based on community based items, in order to equip students and scientists to deal with social relevant items
- Flexibility has to be assured: a policy plan is not a straitjacket.

## **Policy Plan 1999 – 2003**

Based on the evaluation of the first Policy Plan and the present and expected development of organisations and available expertise of all participants (e.g. community based organisations, principals, Faculty of Biology, Utrecht University, Science Shops in Utrecht and other cities or countries) a new Policy Plan has been prepared for the period 1999-2003 (Lürsen, 1999).

The key elements are:

- Keep on working on improvement of quality of mediation, research and reports
- More flexibility by disconnecting the division of the Science Shop for Biology into (scientific) expertise field and general co-ordination.
- Assessment of the method of the research projects and the effect of the projects.
- Differentiation of types of principals followed by differentiation of research tariffs for principals (table 1).
- Being a partner in the development of new curricula at the faculty Biology and in co-operation with other science shops at the university.
- Offering the opportunity to recently graduated people to get trained in community based research projects.
- Strengthening of the expertise of staff in specific scientific subjects (e.g. risk assessment, eco-toxicology, eco-hydrology, environmental education, health education) and management subjects.
- Development of a pilot project (possibly in co-operation with other Science Shops) to work on a project for branch organisations of small and medium sized enterprises. This will be done to extend the target group and because the University Board requested the Science Shops to set up such pilot projects.
- Development of a pilot project on international co-operation, based on transfer of expertise to organisations in other countries.

Table 1: Differentiation costs of projects carried out at the Science Shop for Biology

principal	financial capacity	project costs for principal	
		graduate research (MSc)	post graduate research
community based	without financial resources	personal support	support in fundraising
	with financial resources	internship fee	at minimum 50% of research costs
commercial based	with financial resources	<ul style="list-style-type: none"> <li>• internship fee</li> <li>• supervision costs</li> </ul>	<ul style="list-style-type: none"> <li>• mediation costs</li> <li>• supervision costs</li> <li>• research costs</li> </ul>

## Effectiveness Science Shop research

The external assessment of the Science Shop for Biology (Schiffelers et al, 1999) is positive toward the organisation and its products. In general the principals of the Science Shop for Biology have a positive attitude towards the science shop. It's a critical, independent wide range organisation with a clear philosophy. Its products are of a good quality. It's a recommendable organisation with a unique function. But of course some aspects can be improved to increase the effect of the research or implementation the research recommendations.

Although the science shop is clear in its position towards principals sometimes there is a tension between the scientific results presented in the reports of the science shop and the goals of the principals. However the independent position of the research of the science shop is not to be discussed because it is also one of the strengths of the science shop. Sometimes mutual understanding of the position of researcher and the principal might be increased.

The research costs the principal has to pay often aren't the real research costs. It is important to make clear what the real research costs are and what part the principal will pay.

Because of the low costs for the principal the science shop might ask for more commitment to the research or the goals of the science shop in general in another way.

In order to get insight in the use of the results of the research the project can be evaluated not only immediately after the production of the final report.

## Literature:

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## ***Appendix 6: Examples of adaptations***

### **of the Dutch science shop model and similar initiatives to science shops**

An example for the adaptation of the Dutch science shop model is the Science Shop British Columbia an experiment started 2000 on the west coast of Canada. It is modelled on the European science shops and the two halftime co-ordinators are working closely with British Columbian communities to adapt the model in geography, politics and culture of British Columbia. Specifically they are focusing on environmental and social concerns of regions that have traditionally relied on a narrow natural resource sector (e.g. forestry and fisheries) and are now moving to a more diversified economy and ecologically-based resource management plan. They are establishing a number of affiliated offices located within rural communities which are typically several hundred kilometres from urban universities. These "satellite" science shops will provide an essential link between established community organisations and the central SSBC office in Victoria.

In the academic area the concept of practise oriented education ("Service learning") meets with increasing interests. A good example is the Environmental Studies Program (ESP) at Innis College in Toronto (Canada).

The goals and objectives of the program are to prepare students to confront and resolve environmental problems about which we haven't yet dreamed. The Innis College environmental programs provide the students with a unique combination of rigorous training in the academic and practical skills essential to work in the environmental field, as well as exposure to the people and organisations active in environmental work. The teachers there use an applied interdisciplinary approach, and focus on understanding, development and implementation of progressive environmental policy and practice. Assignments involve research activities and information sources outside the university and all students enrolled in the programs work directly with an off-campus organisation in the final-year environmental research seminar.

A similar way to lead students to practical work and on the other hand empower communities are the Student Consultancy Projects at the Faculty of Computer Studies and Mathematics at the University of the West of England in Bristol. These projects are not just a service to the community and voluntary sector organisations. They also form a vital and innovative contribution to the teaching and are closely associated with University research interests. The projects integrate a wide range of technical and social aspects of Information Systems and apply them to a real-world situation. They offer a leading example of a developing trend towards "service learning" and have been recognised as exemplars of good practice in this area. This work shows that a fully fledged infrastructure that meets the computer and computer-related support needs of community and voluntary organisations does not yet exist. The projects develop skills, that community organisations individually or as a sector, may eventually be in a position to be empowered to take full advantage of contemporary information and communications technologies and avoid the social exclusion that can easily result from the rapid development of new technologies.

The idea and main interests of a science shop can be found in partnerships between parts of the universities or academic researchers and students and community organisations, NGO's to solve a regional problem. Examples for that you can find also in countries, where no so called science shops are established. For example in Italy the Joint Research Centre of the European commission in Ispra. They work on interfaces between science and non-scientific social actors. This involves working both on concepts of complex scientific issues and on communication and visualisation aspects. These developments aim at involving the civil

society in processes of decision making or policy making, quality assurance of scientific processes and products to improve governance. This organisation is part of the European Forum on Integrated assessment. The staff members are interested in participation at the new built network of science shops.



## **Appendix 7: Examples of projects**

### **Impact on social/economical/cultural or political development**

#### **Creating consensus to promote sustainable forestry (Alaska, USA)**

South of Fairbanks commercial timber companies attempted in 1993 to secure contracts for logging large sections of the multiple-use forest there. When the public notified this intention, political conflicts ensued. Part of the opposition came from the Alaska Boreal Forest Council (ABFC), a diverse group of elected officials, agency managers, scientists, native groups, and individuals in the region. With concern for the future of the Alaska boreal forest as its focus, ABFC organised a nine-month community consensus-building process, resulting in a series of roundtable discussions in the fall of 1995 and a follow-up, three-day forest sustainability workshop in March 1996. The roundtables in 1995 considered issues involving tourism, timber products, fish and wildlife. ABFC encouraged participants to share their experiences and perspectives. Despite various differences, people shared their ideas, knowledge from previous and ongoing research projects, and their respective concerns. The roundtables resulted in the group reaching consensus on undertaking eight projects, with detailed action plans that would lead the community in the direction of sustainable forestry. Among these projects were various community-based research activities. ABFC is currently compiling an annotated bibliography of publications about boreal forest ecology and uses. The University of Alaska-Fairbanks included this project in a grant proposal to the National Science Foundation. ABFC is also preparing a study of ways to create markets for Alaskan products used in the construction industry. As consumers, community members are providing essential knowledge and ideas. By involving many different groups in these projects, ABFC has created a model of social change that involves a diverse range of communities in research and decision making about forest policy and solutions. And the forest remains intact as legislators and activists continue to negotiate policy. The philosophy of the project is building trust with all the different groups and partners and the creation of more equitable balance of power between state and community..

#### **The Nuclear Risk Management Project for Native Communities (Massachusetts, USA)**

Native American communities located downwind from the Nevada Nuclear Test Site began to suffer adverse health effects, but government officials denied responsibility. In 1993 the Childhood Cancer Research Institute (CCRI) responded to the Native Community's concerns. Through research and education, and by providing organising support to the Western Shoshone and Southern Paiute communities, CCRI's goal was to prepare community members to make informed decisions in managing health risks of nuclear hazards. CCRI sought to develop a community-based infrastructure (funding, staffing and an advisory committee) that would enable the communities to develop and disseminate accessible information on nuclear contamination health hazards and create a community-based hazards management plan. In collaboration with Clark University in Worcester and several tribal groups, CCRI developed a model for working in partnership with communities to improve public health protection from environmental contamination. This model was unique in seeking to overcome traditional top-down approaches to research, risk communication and risk management of concern to Native Americans. University staff trained community members to conduct community interviews and conduct community-based research on nuclear contamination. Community members - incorporating oral histories

and their local experience of environmental and nuclear contamination disseminated this information via local workshops and educational presentations. Through this collaboration, community advisory committees formed and were trained to oversee the planning and implementation of nuclear contamination clean-up programs. Key to the success of this model was that the project shared research funding equitably with the community groups in order to build a sustainable infrastructure in which the community would be invested. This newly formed infrastructure provides the participating Native communities with a sense of ownership in the process of risk management and in epidemiological and radioactive-dose-reconstruction studies conducted by federal agencies and academics. This infrastructure also requires university or government scientists to work through the community when doing research, first by obtaining community permission and then, often, their knowledgeable input.

### **The Good Neighbour Project for Sustainable Industries (Cambridge MA, USA)**

In September 1994, residents of Rodeo, California suffered the burden of two separate chemical spills from the Union Oil Company of California. The first spill released a brown chemical substance into the environment. The second spill released potentially lethal hydrogen sulfide near the Hillcrest School in Rodeo, sickening students and teachers. Rodeo was in a bind: the industry that gave life to the economy was also killing the environment and jeopardising the health of residents. Outraged community leaders, labour unions and environmental groups took action and sought the assistance of the Good Neighbour Project for Sustainable Industries (GNP). At public meetings, they developed strategies on how Rodeo's community could regain control of its damaged environment, and at the same time, preserve jobs. This work marked the beginning of a "Good Neighbour Agreement" and the collaboration of both economically and environmentally affected populations. The stakeholders first step was to define the most pertinent environmental problems caused by the Oil Company, and the industry's mistakes and weaknesses. Secondly, a representative group met with the Oil Company's management. The company and community then jointly assessed the situation and its possible resolutions over a series of meetings. All the parties signed a legal contract binding the company to address all agreed upon areas. The agreements included a paid clinic for community members affected by past spills, a notification system for chemical accidents, and a local hiring program in collaboration with existing unions. The agreement was far-reaching and included over \$10 million dollars in company spending for the community's benefit. This empowerment model is based on the idea that change happens from small groups of citizens getting sufficient information to effectively critique what local industries was doing work.

### **Healthy Gay Manchester (Manchester, UK)**

Four Faculty of Arts students from Manchester University organised and promoted a club night on behalf of Healthy Gay Manchester. The club night aimed to tackle the serious issue of raising awareness and funds for HIV charities through an informal and fun evening. The event was deemed to be a great success by those who participated in it and by Healthy Gay Manchester whilst also fulfilling the students course requirements.

### **The Urban Farm (Liverpool, UK)**

The Acorn Venture Urban Farm in Knowsley needed advice about how to feed its goats. Food is donated to the farm, but does this represent a balanced diet? The Merseyside Science Shop liaised with veterinary scientists at Liverpool University who were able to suggest an appropriate mix and a simple sorting procedure. Two students worked together on a project for an Urban Farm in Merseyside. The Farm is an independent community-based organisation established some 10 years previously on a reclaimed landfill site in a predominantly industrial area of the outer city. The Farm Manager

wanted to find out what the visitors thought of the Farm and in particular how the visiting school children and their teachers made use of their experiences in school and how this related to the National Curriculum. It was thought that a survey report could provide evidence for the possible future employment of an education officer at the Farm.

The students spent time at the Farm, familiarising themselves with the activities and observing school visits. In collaboration with the Farm staff they devised a questionnaire for ordinary visitors. They also observed school visits, following the children around and talking to them and their teachers, as well as to the guides provided by the Farm. There were interviews with teachers who had brought children to the Farm for visits.

The report analysed and presented the findings from each of these methods of research, and offered recommendations based on the evidence collected, aiming at improvements in the publicity for the Urban Farm and the facilities offered to visitors, and greater awareness for the Farm guides of the educational implications of school visits and how such experiences could be integrated into classroom activities. The report has been welcomed by the Farm Manager as useful evidence for planned future developments and fundraising.

### **Contamination of nearby land (Belfast, Northern Ireland)**

Residents of the Lower Ormeau area of Belfast were concerned about the contamination of nearby land as a consequence of previous gasworks activities. The Northern Ireland Science Shop was approached by the residents and a link was made with students from the University of Ulster. The students carried out a soil environmental analysis and made the results available to the community.

### **Local composting - an urban ecology initiative in Skotteparken (Ballerup, Denmark)**

In May 1996, the house building Skotteparken in the municipality Baalerup received a composting system named Corrokomp 2000. The system consists of two rollers. Since the beginning of the composting there has been a number of problems with the system and it has not been working properly. Students found out the main problems and presented them in a report. For that reason there has been made some investigations of the composting process including evolution of temperature, decomposition, oxygen admission, airing, pH value, and adding of structur- and watersucking materials. Furthermore there has been looked at conditions concerning development of heat, exploitation of energy, and isolation of the rollers. These investigations have led to the conclusion that it will be an advantage to make changes in the composting process in Skotteparken. The suggestion to changes has led to the preparation of a composting guide which caretakers can use in daily work with the composting rollers. According to a determination of the volume of organic household waste it has turned out that only 9% of the total potential is composted in Skotteparken. This is about 15% of what the rollers are designed for. Consequently the conditions about activating the residents has been examined. The results has been debated with the committee and the leading caretaker. This has ended up in proposals for what can be done to activate the residents.

Reaction tester:

The final report deals with the construction of a reaction tester to control the influence of alcohol on drivers. To illustrate the problems and possible solutions a morphologic diagram a Pugh-diagram was made. And a brainstorm was performed. The result of the project is a design of an instrument to be installed. The instrument is capable of measuring the reactivity to indicate whether the person is able to drive or not.

### **Art as medium of environmental formation (Bonn, Germany)**

The science shop Bonn tries to get the inclusion of art as a medium of the environmental education. Environmental associations and institutions seek advice at on how to set up ecological events The science shop Bonn mediates suitable theatre groups or artist for work-shops. Furthermore the science shop Bonn maintains a huge data base on "environmental theatre groups". The science shop working group on the topic art and ecology became an asked expert even giving advice to the German federal foundation on environment. Their expertise is highly sought-after to evaluate grant proposals on the topic of art combined with environmental education. The country department of North Rhine-Westphalia placed an order to develop the concept for the presentation on the topic "theatre and environmental education" for a special event the so called "Mediabörse" in Dortmund. The science shop invited different theatre protagonists who could present parts from her programs there. Furthermore the science shop organised the third nation-wide environmental theatre festival in Bonn in the order of the country environmental department in 1999. In addition there had been carried out a competition. Environmental theatre connects theatre pleasure with insights of ecology. The main emphasis is put on environmental education, that makes fun for all the people involved.

### **Urban crossroads (Nijmegen, the Netherlands)**

The Nijmegen University Science Shop did many studies on the Arnhem/Nijmegen "urban crossroads" - cities considered to be at infrastructural hot spots. Research themes consisted of, for example, mobility and public transport systems, planning of (glasshouse) horticulture and housing schemes. The clients were diverse and ranged from political parties to public action groups. Students and staff came from different organisations at Nijmegen University, such as the Nijmegen Business School and the School for Spatial Planning. Under co-ordination of the University Centre for Environmental Studies the results were compiled in a final report "Towards sustainable development in the Arnhem Nijmegen Crossroads Area. The results from these studies can be used by the clients in discussing and influencing proposed plans.

### **River planning (Maastricht, the Netherlands)**

The Maastricht University Science Shop did a large project on the "Grensmaas" plan: a plan for the part of the river Maas at the Dutch-Belgian frontier. In this large infrastructural plan combining economic, ecological and safety (flooding) aspects, internal conflicts may arise. As the Grensmaas project was considered to be relevant both from scientific and social point of view, a multi and interdisciplinary research team was set up, although the Science Shop was not addressed by any client with a specific question on this topic. Publications dealt with participation possibilities in decision making, health effects of the Grensmaas project, comments on the environmental impact assessment, comparison of legal regulations on both sides of the river, the relation of recent flooding with spatial planning, environmental costs and benefits and the cultural value of the Grensmaas. A comprehensive volume is published for the general public.

### **Poverty amongst farmers (Wageningen, the Netherlands)**

The Wageningen Agricultural University Science Shop started a research project on poverty amongst farmers. Since many farmers live in substantial farms on many acres of land, most people do not consider them as "poor" and farmer's complaints are not taken seriously. Clients for this project were the Critical Agricultural Meeting, the Churches Working Group on Agriculture and the National Interests Group of Farmer's Wives. Fundamental data had to be

acquired and definition problems had to be settled to address the problem, which made it interesting from a scientific point of view.

### **Prescription of drug (Groningen, the Netherlands)**

The Science Shop for Pharmacy did a study on the prescription of bromocriptine by physicians. This drug is used to lower breast milk production. It is banned in many countries due to its side effects, but Dutch authorities decided to restrict the medical grounds for prescription. The Women's Health Action Foundation asked the Science Shop to evaluate the way physicians prescribe this drug in practise. Two students reports were published as well as three scientific articles. As it turned on, physicians are aware of the problems with this drug, though potential users lack information. In co-operation with the Birth Information Centre in Groningen, the Science Shop has produced a brochure for them.

### **Gender (Innsbruck, Austria)**

On behalf of the Austrian Ministry of Social Security and Generations the Institut FBI is conducting a project on a gender related topic dealing with boys and young male adults. The focus is put on their difficulties, expectations and ideas of becoming a man against the background of the changing role models. To shed light on the topic by as many sides as possible, and to meet the needs of the social groups involved, FBI applied different activating methods. As a sound bases to start of, a survey by questionnaire was conducted, to collect and analysed data with the aim to examine the state of the art in Austria. As a follow up, to deepen the achieved results qualitative interviews had been conducted. A theoretical analysis on the state of the art put the achieved results in a social sociological connection. The publications at various states of completion and the findings have been and still are discussed and updated within various working-groups involving interested social groups and Practitioners. Therefore it is reassured that a) the clients are active involved at any stage of the project, b) the accompanying research is further developed taking into consideration the changing or growing needs of the clients at any time. c) the Institut FBI gets the feedback right away and can react and improve the project constantly. In this way the Institut FBI raises public awareness on the topic, acts as a pacemaker and can influence the social-sociological development on the named topic. The results have been published in the form of two books which are available for free. They offer a general overview on the topic, give tips and hints for newcomers, open up new perspectives, generate new discussions, and are a valuable tool for, just to name a few, schools, kindergartens, youth centres, and everybody raising a boy.

## Examples of Science Shop Projects in The Netherlands and Community-Based Research Projects in the USA

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US examples taken from Richard E. Sclove, Madeleine L. Scammell & Breena Holland, *Community-Based Research in the United-States. An introductory reconnaissance*, Loka Institute, Amherst, MA., 1998 ([www.loka.org](http://www.loka.org))

Organisation: Concerned Citizens of Tillery's, Groundwater Guardian Committee (TGGC), NC, USA

Project: Residents of a predominantly African-American community -- together with businesspeople, farmers, educators, University of North Carolina scientists, and government agencies -- conduct research on the health effects of exposure to farm-waste contaminants that seep from hog farms into groundwater.

Impact: Test results indicate high levels of lead and nitrate in well water, and contaminated wells are replaced with new potable water lines. Members of TGGC participate in educational initiatives and legislative hearings, achieving international recognition from Friends of the United Nations.

Organisation: Center for Neighborhood Technology (CNT), Chicago, IL, USA

Project: CNT, a community-based non-profit organisation, co-ordinates a collaborative effort among scientists, industrial development organisations, and metal working plants to assess options for bringing metal finishers into compliance with stringent new environmental regulations that threaten the plants' existence.

Impact: Affordable, centralised approach to waste treatment identified; environmental improvement; preservation of 1000's of jobs vital to low income neighbourhoods.

Organisation: Jacksonville Community Council, Inc. (JCCI), Jacksonville, FL

Project: JCCI, a community-based civic organisation in an area that has many distinct neighbourhoods, develops "Equity Index" to assess fairness of public service distribution.

Impact: Sheriff creates new sector system for more equitable patrol service.

Organisation: Center for American Indian Research and Education, Berkeley, CA, USA

Project: Study the effect of smoking-related diseases on mortality among American Indian populations. As warranted, develop culturally sensitive intervention methods to support long-term smoking cessation among the clients of 18 American Indian clinics in Northern California:

Impact: Community-based smoking cessation intervention successfully reduced smoking prevalence within the target population.

Organisation: Alliance for Aquatic Resource Monitoring (ALLARM), Dickinson College, Carlisle, PA, USA

Project: Professors and undergraduate students together with hundreds of citizens collect and analyse data from 30,000 sample sites in over 550 Pennsylvania streams in an ongoing study of the effects of acid deposition on water quality.

Impact: Data is compiled for use by individuals and environmental conservation groups and to support policy development by local and state government agencies. ALLARM recently

presented scientific research findings to an audience of natural resource managers, educators, environmental scientists and regulators, and interested citizens at the Pennsylvania Acidic Deposition Conference.

Organisation: Science Shop Catholic University Nijmegen (KUN)/ Cura Migratorum (Immigrant's Church), Den Bosch, The Netherlands

Project: A researcher from the Missions-institute of the KUN did a participatory/ observatory research with African Christians in Rotterdam to see whether they could integrate in the Dutch Catholic Church (Answer: No)

Impact: Report was offered to the Bishop (under large press interest); the Diocese will develop policy with regard to African Christians.

Organisation: Science Shop for Economics, University of Groningen, The Netherlands/ Board of Co-operating Dutch Churches

Project: Financing maintenance and restoration of monumental churches in The Netherlands, in the light of reduced membership of churches and changing government legislation and *rules* in various policy fields, ranging from monument subsidies to occupational health issues and ecotax.

Impact: A report was published showing *clearly* the increased financial burden monumental churches bring to the religious communities and the huge impact on financing monumental churches of occupational safety and health regulation. This triggered substantial national publicity and discussions in Dutch parliament on this issue.

Organisation: Science Shop for Economics, University of Groningen, The Netherlands/ Statenfractie Groen Links (Provincial Delegates Green Party)

Project: Feasibility study by students regarding a planned magnesium production complex near the Dutch Ems Estuary. Commercial consultants severely exaggerated number of jobs created and the feasibility of the project.

Impact: Feasibility of published plans was assessed low; competitive advantages compared to other regions or players were lacking, while competition is fierce.. Dutch Financial Daily praised student's research over the consultant's reports. The published results lead to fierce local and national publicity and discussions, also in the Dutch parliamentary committee for economic affairs.

Organisation: Science Shop for Economics, University of Groningen, The Netherlands/ National Association for Conservation of the Waddensea

Project: Evaluation of the building of the "Emssperrwerk": a flood barrier in the German Ems river, to prevent flooding and to allow the Meyer ship-yard to continue to build increasingly huge cruise ships in Papenburg (a place where the Ems is not deep enough)

Impact: The evaluation used a newly developed evaluation method specifically designed for use in a sustainability context. It clearly showed that the project was not profitable to society and that moving the shipyard downstream would yield far better results both for economy and *ecology*. This aroused national publicity (prime time television) and discussion in the Netherlands, and rather limited attention in Germany.

Organisation: residents, neighbourhood or environmental groups, Bureau for Legal Aid (many comparable projects)/Science Shop for Physics (University of Groningen, the Netherlands)

Project: expert technical evaluation of environmental reports on noise exposure to support *legal* procedures of residents (noise exposure from various sources: traffic, private enterprises, recreation and catering, supermarkets, wind turbines)

Impact: Many evaluations have been made and used in legal procedures; claims of client organisations supported by expert comments were partly or wholly sustained by court. An article in a specialised magazine evaluating acoustic reports was published. Recently, a proposal was submitted (supported by the Bureau's for Legal Aid) to the Dutch Ministry for

the Environment to provide (more) technical support from acoustic experts for residential and environmental groups

Organisation: neighbourhood group/Science Shop for Physics (University of Groningen, the Netherlands)

Project: determination of noise levels near a high way to support claim for sound barrier

Impact: in (at *least*) two (different) cases a sound barrier has been erected along the highway

Organisation: many individual residents/Science Shop for Physics (University of Groningen, the Netherlands)

Project: measurement of sounds in dwellings of residents complaining about humming or machine-like sounds (low-frequency noise)

Impact: after several individual measurements to help individual residents, a national measurement survey was conducted for the Department of the Environment. A national guideline to deal with complaints was formulated for the Dutch Foundation for Noise Annoyance

Organisation: Former Civil Resistance Netherlands, East-Asia department/Science Shop Linguistics, Utrecht University (1995)

Project: Thirteen women were interviewed on their survival during WWII in Dutch East-India (Indonesia), both those inside and outside Japanese prison camps. Their life stories on strength, family-ties in difficult circumstances were gathered in a book, combined with a historic view on Dutch East-India in that time.

Impact: Fellow-sufferers, scientists and many other interested individuals could learn from this book. The book was much reviewed and highly praised in the critiques.

Organisation: The Mondriaan House, Amersfoort/ Science Shop Linguistics, Utrecht University (1999)

Project: A research into the ways that Piet Mondriaan's art is used in comics, cartoons and animations. Archive studies were done together with cartoonists.

Impact: An exhibition was organised, called "Sincerely ridiculed; Mondriaan in cartoons, comics and animations". This revealed many original cartoons and the research results to the general public.

Organisation: Humanist Alliance, Amsterdam/ Science Shop Linguistics, Utrecht University (1999)

Project: Collecting/selecting poems that could be used at Humanistic birth celebrations. Poems from various poets (from Slauerhoff to Kahlil Gibran) were retrieved, commented, and bundled in an anthology

Impact: The Humanist Alliance's hosts of the birth celebrations use the anthology. It is given as a remembrance to all guests.

Organisation: Effatha - Christian Institute for the Deaf, Zoetermeer/ Science Shop Linguistics, Utrecht University (1999)

Project: Educational material on language and sign language was developed for use in school for deaf children at the age of 11-12. This much-needed material from which deaf children can learn about language did previously not exist in The Netherlands.

Impact: A teacher's manual, a pupils course book and a video were made. The first print was sold out immediately.

Organisation: Residents Pijlsweerd quarter/ Science Shop for Chemistry Utrecht (1996-2000)

Project: The soil in this area appeared to be polluted with various heavy metals originating from a nearby galvanising factory. Residents in this area did not have the technical knowledge to participate in the joint meetings with local government and the polluting factory.



Impact: Volunteers of the Science shop for Chemistry from Utrecht accompanied the inhabitants in every meeting and delivered the knowledge to decide about the best solution. The volunteers even advised the inhabitants which soil they should choose after the polluted soil was removed.

Organisation: Residents Abstede quarter/ Science Shop for Chemistry Utrecht (1993-2000)

Project: Residents in the Abstede quarter in Utrecht, which all rented their houses from the real estate agency Amnis in Utrecht, had complaints about their indoor climate. In their houses the possibilities to ventilate were by far not sufficient and they had open stoves which spread the combustion gases right into the living rooms. Many inhabitants had complaints about their health, like headaches, fatigue and dizziness.

Impact: The Science Shop assisted with a neighbourhood survey and the inhabitants offered the results to their real estate manager in a spectacular way. After that, Amnis allocated some money to a partial renovation. At this moment all of houses have a new high efficiency stove, and in January 2001 the houses will be renovated to improve ventilation.

Organisation: various organisations dealing with indoor climate measurements / Science Shop for Chemistry Utrecht, NL (1998)

Project: For measurements in the inner climate there is no standardisation yet. It is difficult to talk about the standard that must be met in the inner climate, when there's no standard and therefore comparable method to perform the measurement.

Impact: A researcher of the Science shop interviewed many specialists in the inner climate field and wrote a proposal for the standardisation of measurements in the inner climate. Many specialists like regional environmental health services and private consulting and engineering firms are now using this proposal.

Organisation: Environmental Federation Limburg, Sittard/ Science Shop University Maastricht, NL

Project: Expansion of the regional Maastricht-Aachen-Airport was presented as very important to regional economic development. In an assessment by four students, this thesis was overthrown

Impact: Three reports that were made have been offered to the Provincial Delegate and the Airport's Board of Directors. They attracted much media coverage, both regional and national. Attempts of the Board of Directors of the Airport to silence the Science Shop (through a letter from the Provincial Governor to the Rector of Maastricht University) failed because the Rector supported his scientists.

Organisation: Foundation Concerned Plateau-residents/ Science Shop University Maastricht, NL

Project: A student assessed the plans for the expansion of the quarry 't Rooth on the Plateau of Margraten. This expansion would require the total evacuation of the hamlet of 't Rooth. The student gave an option for a smaller expansion, which would preserve this hamlet.

Impact: The report was presented to the Provincial Delegate who took over the recommendations in the final draft plan for expansion. Legal procedures still continue in which the student acts as expert-witness.

Organisation: Day nursery, Sittard/ Science Shop University Maastricht, NL

Project: Survey of required future capacity in the area, as a basis for the investment plan that should be offered to the City Council

Impact: The calculated future capacity was accepted in the general investment plan.

Organisation: Studium Generale University Maastricht/ Science Shop University Maastricht

Project: Survey of the role of cannabis in Maastricht, as a preparation for a public debate in Theatre Kumulus. Attention was paid to coffeshops, growshops, Consultancy Centre for Alcohol and Drugs, et cetera.

Impact: The public debate received much media coverage. The Ministry of Justice was seriously interested in the report.

Organisation: Oneworld Europe (Internet-portal for sustainable development, human rights and environment) / Science Shop University Maastricht

Project: Establishing a business plan and a marketing plan to realise the transition from the start-up to the expansion phase

Impact: Oneworld Europe has accepted most of the suggestions, including moving to Amsterdam

Organisation: Residents/Science Shop Technical University Delft, Netherlands (1999)

Project: Air pollution and odour from car spraying caused annoyance for the residents. The science shop made calculations and showed that the emissions were above legal limits

Impact: The residents took this case to the highest administrative court in The Netherlands, which ruled that the company should take measures to reduce the emissions

Organisation: Environmental organisation/Science Shop Technical University Delft, Netherlands (2000)

Project: Counter-expertise on reports relating to air-pollution and noise from a glass fiber factory..

Impact: Client appealed to the highest administrative court in The Netherlands based on the research results

Organisation: Residents Organisation/Science Shop Technical University Delft, Netherlands (1999)

Project: Electromagnetic radiation from mobile phone masts

Impact: Housing corporation agreed not place masts on apartment buildings for the time being

Organisation: Residents Organisation/Science Shop Technical University Delft, Netherlands (1999)

Project: Soil pollution analysis near apartment building in Maassluis; concentrations were above national limits

Impact: Residents use the results in a legal procedure

Organisation: De Helling/ Science Shop Catholic University Nijmegen, Netherlands

Project: An organisation for elderly people without work, based on volunteers, wanted to transform their organisation. The Board wanted the members to decide on the future of the organisation. The science shop facilitated an expert meeting with 40 members of the organisation. In a workshop of one day they developed the outlines of their future.

Impact: The organisational change was tackled in a way that the members themselves were responsible for the outcome. This created internal support for the changes.

Organisation: Neighbourhood Organisation Feijenoord, Rotterdam/Science Shop Technical University Delft (1996)

Project: Assessment of annoyance from (increasingly intensive) railroad traffic (future plans, legal standards, prediction/measurements of annoyances), and ways of mitigating these problems (both technological and through spatial planning).

Impact: A manual on how to participate in decision making on railways was made, which was used by other neighbourhood groups as well.

Organisation: Environmental Federation, South-Holland/Science Shop Technical University Delft (1998)

Project: Environmental standards for the "compact-city". Researchers from the departments of Law, Architecture and Civil Engineering made a manual to evaluate the experiments "City

and Environment" by the Dutch Ministry for Housing, Spatial Planning and the Environment. Two other NGOs participated in the supervision of the research as well.

Impact: The manual was delivered to the client and articles were published in several magazines.

Organisation: Resident Enschede fireworks disaster area/Science Shop University Twente, Enschede, The Netherlands

Project: The resident was eyewitness of the big explosion on May 13, 2000, which caused 22 deaths and 1000 injured, next to extensive material damage (400 houses and several small factories destroyed). Puzzled by unclear news reports, he wanted good public information on the additional dangers that had been present during the disaster from the presence of a large brewery adjacent to the fireworks factory. The Faculty of Chemical Engineering assessed the risk from the large ammonia storage at the brewery; there had been serious danger for an even larger disaster.

Impact: The board of the brewery was not amused about this outcome, because they had told the newspapers that there had been no serious danger. Under their pressure on University, the science shop report was checked, but confirmed. Independent scientific public advice proved its value; citizens (victims) valued reliable information for their coping process. The report increased attention for combined risks.

Organisation: Science Shop for Medicines, University of Groningen, NL (1979-2000).

Project: Many individual questions came in on pregnancy and medicine use. This were first dealt with in some student projects, then in a PhD thesis.

Impact: Pregnancy and medicine use is now a structural research theme within the Research Group for Farmaco-Epidemiology at Groningen University.

Organisation: Science Shop for Medicines, University of Groningen, Netherlands (1985-1994)/NGO Working Group Medical Development Co-operation WEMOS, Amsterdam.

Project: Several small questions on medicine use in the tropics lead to two larger (PhD) projects: tropical tablets and dermatological preparations for the tropics

Impact: Both theses were best sellers from the Royal Institute for the Tropics in Amsterdam. In a magazine in 1999, the dermatological preparation report was praised as still being of great help in tropical practice.

Organisation: Science Shop for Medicines, University of Groningen, Netherlands

Project: Serious inventory of complaints relating to hypothyroidism, which was not recognised by the medical world

Impact: An independent patients association was formed. A recent publication in the New England Journal of Medicine finally gave some clues on the probable cause of the complaints.

Organisation: Foundation Educational and Cultural Centre Brabant Lucerna/Science Shop University of Tilburg (1999-2000)

Project: Lucerna aims at advancing integration and functioning of Turkish youth in the Dutch society.. They wanted an assessment of their effectiveness in improving school results of Turkish youth. The science shop made a comparison with a comparable group not supported by Lucerna, and showed that Lucerna did increase success-rate.

Impact: The report was offered to the responsible alderman of Tilburg. The city council will soon make a decision on financial support for Lucerna, which only has private funds until now. The report drew much attention in national media, as an example contrary to the so-called 'multi-cultural tragedy'.

Organisation: Regional Patients and Consumers Platform Middle-Brabant / Science Shop University of Tilburg, NL (1999-2000)

Project: The platform wanted to increase the participation of patients in Mental Health Care in this care. The research by the science shop gave new methodologies to visualise the patients views in a reliable way.

Impact: The report filled a gap in the advancement of patients having a say on (mental) health care. Hundreds of organisations and institutes from all over the country ordered the report.

Organisation: Centre for Development Co-operation West and Middle Brabant / Science Shop University of Brabant, Tilburg, NL (1998-1999)

Project: A list of questions was established to measure the attitude of the local population (community, neighbourhood) towards foreigners, asylum seekers and refugees. This "tolerance-barometer" was tested in Tilburg.

Impact: Large press coverage caught the interest of a number of Community Councils, who contemplate using it in their own city. The method can be used for information and evaluation on community policy with regards to the multi-cultural society.

Organisation: Waddensea Conservation Association/Chemistry Shop, University of Groningen, The Netherlands (1998-2000)

Project: Sustainable development in the north of The Netherlands.. The Waddensea Association posed several small questions to the Chemistry Shop on the potential environmental benefits of using certain agricultural crops as feedstock for chemical processes, which were answered in several reports. Together, they developed this research in making a strategy for agrification as part of sustainable development in the region.

Impact: The initial results were published in a Master's thesis (which won the annual award for best thesis in environmental chemistry from the Royal Dutch Chemistry Association). The Ministry of Agriculture, Fisheries and Nature Protection, North Department, published and disseminated this thesis. To implement recommendations, a consortium was formed including the Chemistry Shop, the Ministry, and several industries and consultants.

Organisation: Association Pre- and After-care for Heart patients/Science Shop for Medicine and Public Health, University of Groningen, NL

Project: Heart-patients and sexuality; a taboo subject? A subsidy request was made to the Dutch Heart Foundation

Impact: The subsidy allowed having a sexuologist make a brochure, which was disseminated to family doctors, hospitals and patient-organisations.

Organisation: Residents Group Steenwijk East/ Chemistry Shop, University of Groningen, The Netherlands, NL (1998-2000)

Project: Odour and health problems in two neighbourhoods. There had been eight years of discourse, mutual mistrust and violent PR among the residents, city council and two carpet factories, on potential harmful emissions and smells. The chemistry shop made an independent assessment of the situation, and concluded that in the current situation there was no danger from toxic emissions (contrary to the residents belief), but at the same time the odour pollution was shown to be higher above limits than the city and the factories had previously calculated.

Impact: The discussion was restored. The three parties involved are co-operating in a research into eventual past toxic emissions and its current influence (with the science shop for health in Groningen), and are jointly supervising a research to mitigate the odour problems.

Organisation: Monitoring Network Health and Environment, Bunnik, The Netherlands/ Science Shop for Biology, University of Groningen, NL (1999)

Project: Co-ordinate the input from Dutch NGOs into the WHO/ ECE Ministers' Conference on Health and Environment in London, 1999 and to back up their requests with scientific information.

Impact: A strong coalition of health and environment NGOs was built, currently working with the government on implementation of the London Conference, as well as the previous conference, which the government was unwilling to implement.

Organisation: Residents Delfzijl en Farmsum/ Science Shop for Medicine and Public Health, University of Groningen, NL

Project: Counter-expertise on report by Regional Health Authority relating to public health and odour problems in relation to large adjacent industrial site.

Impact: The Regional Health Authority will now assess neglected aspects and parts of the initial report will be rewritten.

Organisation: Provincial Institutions for Mentally Handicapped/Science Shop for Medicine and Public Health, University of Groningen, NL (1996)

Project: Investigation on sexual abuse of mentally handicapped persons.

Impact: The report led in 1998 to a special phone number for reporting cases of abuse. The phone number seems to fulfil a need; it has become generally known and well used.

Organisation: Volunteers of the Foundation Utrecht's Landscape/Science Shop for Biology, University of Utrecht, NL

Project: Make an ecological land use plan for the rural estate Sandwijck (which is owned by the Foundation and maintained by volunteers). The fieldwork and literature research by the science shop resulted in recommendations that were not expected by the volunteers and the foundation.

Impact: The recommendations were implemented in the land use management.

Organisation: Science Shop for Medicines, University of Groningen/Many individual questions on pregnancy and medicine use, NL

Project: Some student projects, leading to one PhD thesis

Impact: Pregnancy and medicine use now a structural research theme in Research Group for Farmaco-Epidemiology at Groningen University

Organisation: Dune-drinking water company Zuid-Holland/ Science Shop for Biology, University of Utrecht, NL

Project: Pasturing in nature reserve Meijendel (which is owned by the water company). Horses and cattle pasture parts of the reserve. On request of the owner, the Science Shop for Biology of Utrecht University investigated the carrying capacity of these pastured parts. The natural food supply was found to be insufficient for the horses and cattle. The recommendation was to remove a number of horses and start a monitoring program for the remaining cattle and horses.

Impact: The drinking water company changed the pasture management. Due to the research and the publicity a discussion among owners of nature reserves that pasture their terrain has started nationally.

Organisation: Dutch Society for Preservation of Nature (the largest Dutch nature organisation)/ Science Shop for Biology, University of Utrecht, NL

Project: Anthelmintics and nature conservation. Anthelmintics are often used in a preventive way in the intensive

cattle breeding. Pasturing for nature conservation is much less intensive, but the use of anthelmintics is the same. Therefore the client asked the Science Shop to investigate the need for the use of anthelmintics in nature reserves and its side effects.

Impact: Because of the possible side effects and their uncertainties, the society started a discussion about anthelmintics with other owners of nature reserves. It also changed its own policy in the use and frequency of anthelmintics.

Organisation: Science Shop Leiden NL & Down's Syndrome Foundation

Problem: Government spends millions on research: prenatal diagnostics and termination of pregnancy

Impact: Research through science shop on improving the quality of life of families with Down Syndrome children

Organisation: Science Shop Leiden NL & Dutch Hyperactivity Association:

Impact: "As a patient one is involved, and has valuable insights. We are not frowned away as laymen. At the science shop our organisation with its questions is taken seriously".

## **SCIPAS reports**

*SCIPAS report 1:*

### **Science Shops: Operational options**

Andrea Gnaiger & Eileen Martin

FBI, Innsbruck, Austria & Science Shop Queen's University Belfast, UK

*SCIPAS report 2:*

### **Success and failure in starting Science Shops**

Henk Mulder, Thomas Auf der Heyde, Ronen Goffer & Carmen Teodosiu  
Chemistry Shop, University of Groningen. Groningen, the Netherlands

*SCIPAS report 3:*

### **Training programmes for science shops**

Caspar de Bok

Science Shop for Biology, Utrecht University, Utrecht, the Netherlands

*SCIPAS report 4:*

### **The development of an international science shop magazine**

Norbert Steinhaus

Wissenschaftsladen Bonn, . Bonn, Germany

*SCIPAS report 5:*

### **Development of a public Internet database of science shops**

Jill Chopyak

The Loka Institute, Amherst MA, USA

*SCIPAS report 6:*

### **The impact of science shops on university curricula and research**

Merete Hende and Michael Søggaard Jørgensen

Science Shop Technical University of Denmark. Lyngby, Denmark

*SCIPAS report 7:*

### **Living Knowledge: the network**

Accomplishments and further opportunities for developing an international network of science shops.

Maaïke Lürsen & Dick Sclove

Science Shop for Biology, Utrecht University, Utrecht, the Netherlands

*SCIPAS report 8:*

### **Living Knowledge: conference proceedings 2001**

Maaïke Lürsen & Caspar de Bok (eds.)

Science Shop for Biology, Utrecht University, Utrecht, the Netherlands

All SCIPAS reports are available as pdf-files at <http://www.bio.uu.nl/living-knowledge> or by contacting the Science Shop for Biology ([scipas@bio.uu.nl](mailto:scipas@bio.uu.nl), tel. ++31.30.253 7363)  
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