Living Knowledge
The International Science Shop Network

Training Programmes for Science Shops

Caspar de Bok

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SCIPAS report nr. 3

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July 2001

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Colophon

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Summary

Science shops are active players in the relationship between science and society because of their involvement in community-based research (CBR). They play an important role in the debate on public understanding of science and technology.

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

Although there are many different models for science shops they all 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 of students, community representatives and researchers

There is not one standard model for science shops because they function within different socio-economic and cultural contexts. There are however, some important parallels among different science shops. These strengthen the impact science shops have on public awareness and understanding of science. An international network of science shops is essential in bringing together expertise in the multiple specific fields of community based research.

This report focuses on training programmes for people involved in community based research. Training creates awareness of strengths and possibilities and will gives tools to make most of their capacities. A science shop, with professional staff and well-trained researchers, increases beneficial public impact of research. It also increases public access to science and scientific knowledge by increasing capacity to serve the needs of community groups. Increased public access to research is insufficient unless there is an accompanying increase in public understanding of research methodology and results. This raises the need to train community groups in doing and using research. Needs for academics are generally for training in socio-cultural skills whereas, community groups training needs tend towards useful scientific skills.

This document provides an overview of customised training programmes for science shops. It is an inventory of resources for customised training programmes for science shop staff members, researchers and community groups. It also identifies mechanisms for matching customised training programmes and different target groups.

Information for this study was gathered from a questionnaire. Additional information was gathered from participant organisations that offer training programmes or expressed the need for programmes at the Living Knowledge conference: Building partnerships for public access to research that was held in Leuven from January 25 - 27, 2001.

The results of the inventory have been separated into three types of customised science shop training for CBR; for coordinators, for researchers in CBR and for community groups. Customised training programmes used by science shops are categorised by discriminating factors.

The survey used four discriminating factors. The hierarchy in discriminating factors is not based on importance but on a process, since to ensure proper training, some factors must be selected before others.

The first factor is the target group for training. The type of training is determined by the by the group needing training and the abilities of the science shop to provide the required training. Secondly, the subject matter of the training is important. Given the target group and the subjects the next step will be the selection in the organisation of the training. The last factor is the selection of the material to use for a customised training.

There are many different training programmes for researcher (mainly students). Some organisations have training programmes for their staff and a few provide training programmes for community groups. The evolution of programs has a direct relationship to the specific context of the science shops are a results of needs, finances, and ability. No blueprint dictating training programme can be provided, however suggestions have emerged as a result of this study.

There is a need for:
- Improved documentation of existing customised training programmes.
- Evaluation of existing programmes to improve the professionalism of science shops and community groups.
- A database, starting with this inventory of training programmes could act as a toolkit for training programmes.
- A method for quality assessment of the tools in the toolkit should be developed. More attention should be paid to evaluation of programmes.
- Protocols and standardisation of documentation and evaluation of training programmes in order to improve accessibility of information about available trainings, courses and accompanying material.

1 Introduction

1.1 Science Shops

In addition to the demands made on research and development by commerce and industry, 'civil society' organisations have their own research needs. Diffusion of knowledge 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 & Vendramin, 1995). Different types of interfaces exist between researchers and society, one of which are the 'science shops'. Science shops are organisations created as mediators between citizen groups (trade unions, pressure groups, non-profit organisations, social groups, environmentalists, consumers, residents association etc.) and research institutions (universities, independent research facilities).
Science shops are important actors in community-based research (CBR). There are many differences in the way science shops are organised and operate, as well as some important parallels.

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

In practice, contact is established between a civil society organisation and a science shop or CBR centre on a problem in which the civil society organisation is seeking research support. In this collective search for a solution new knowledge is generated, or at least existing knowledge is combined and adapted - again, in a true partnership without 'science' prevailing in any way. Through their contacts, science shops provide a unique antenna function for society's current and future demands on science.

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.

Science Shops in general have three criteria for accepting clients:

1. Clients should have no commercial objectives with their question, and the research results must become public (or 'the question must be for the common good');

2. Clients must be able to use the results of the research to achieve their mission (thus, scattered individual questions may not be accepted; but if necessary clients can also be assisted in applying the results);
3. Clients may not have the (full) financial means to acquire their research by other means (sometimes applicable questions from these clients are accepted as paid research or research at least subsidised by the client).

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 5th 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   Training programmes

In other studies in the SCIPAS project (Gnaiger & Martin, 2001, Mulder et al, 2001) more attention will be paid to how science shops or there equivalents (e.g. wetenschapswinkel, intermediu, wissenschaftsladen, videnskapbutikken, community based research centre) are organised and how they operate. One of the aspects that might differ among science shops is the way they organise training and improve the professional skills of their community based research coordinators, researchers and their clientele, the community groups. Improved documentation and evaluation of science shop methods and material is useful for these purposes. This will increase the expansion of good practices or operational options and therefore the impact of the work of science shops. This is linked to achievement of its goal to improve public access to and raise public awareness of science and the beneficial impacts of science and technology, its possible implications for society as well as its limitations. Therefore a mutual understanding of scientists and citizens is essential. Customised training programmes can increase this mutual understanding.

This study focuses on these issues. It provides an inventory of existing types of customised training programmes offered to science shops coordinators, researchers or their clientele, the community groups. This inventory should help science shops customise their own training programmes. CBR is research in a different setting than regular academic scientific research. Because of the specific situation of CBR compared to academic scientific research, most researchers or new staff educated in an academic curriculum need some extra training to improve some of their skills for CBR in a science shop setting. For the purpose of this discussion, CBR is considered from a science shop setting.

Most science shop staff involved in coordination or supervision of CBR have an advanced academic (masters) degree. Regular academic curriculum focuses primarily on scientific

skills. CBR requires additional skills. Doing a research project for a community based organisation demands some skills not generally offered in a regular academic curriculum. Hence the need to train science shop coordinators or researchers in these skills. CBR demands certain practical skills including communication skills, social skills and management skills and a multidisciplinary approach to research. A useful distinction between the different types of skills has been made by Millius et al (2001). At universities scientific education and socio-cultural education can be distinguished. Academic education should include both types and not just scientific education. Farkas (2000) stated that skills for science shop staff often have been under-recognised and under-valued because these skills are not recognized as skills that may be learned or developed. Science shop staff seems to rely on these skills to develop alliances among university students, scientists and their clientele. In an educational setting training these specific skills benefits students. Besides the increasing awareness of the science and society relation the skills they develop are closely related to employability and of an added value (CoBaLT, 1999; Reimus & Demers, 1993).

An organisation with professional staff and well-trained researchers increases beneficial public impact of research. It also increases public access to science and scientific knowledge through increased capacity to serve the needs of community groups. Increased public access to research is insufficient unless there is an accompanying increase in public understanding of research. This raises the need for training community groups in conducting, using or understanding research as well.

2   Delineation

As mentioned before this work package focuses on science shops and their coordinators and researchers. All type of science shops are taken in account in this inventory including university-based science shops university based, as well as those not related to universities. There may be a difference in the European approach of community-based research and the US/Canadian approach because of cultural differences and differences in funding structures of universities and academic research. Science shops can be divided into 7 clusters (Mulder et al, 2001). Theoretically, science shops can be clustered along university connections and funding structure lines, as shown in table 1. Representatives of the existing clusters are described more in detail in Gnaiger and Martin (2001).

Table 1: 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			Non-university based	
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.

Understanding the structure of the organisation is important for understanding the role of the science shop in the process of CBR. Different types of science shops engage in research functions using various methods. Each science shop project have people that coordinate the project, others that do the actual research and some which supervise the research. These functions are not necessarily divided among different individuals. Each function demands specific skills however, there are also common skills needed for everybody who is involved in the research.

In this work package five types of individual functions are distinguished:
- coordinator: person who brokers the research and often supervises the process of research project
- researcher: person who is carrying out the research

- student researcher: researcher who is carrying out the research as part of a curriculum
- supervisor: person who supervises the scientific quality of the research
- client: the representative of the community group that asked for the research

In some cases the coordinator can be the researcher or the supervisor as well. When working with students there will always be a supervisor. Participation of the client in the research can be full participation or partly participation. Full participation can be seen as participative action research, where representatives from the client will do the research themselves. Partial participation may involve at least one representative from then client as a main advisor of the research project.

In this report customised training programmes should be read as all activities carried out to train coordinators, researchers, students, supervisors or clients in their role in the process of CBR. Here customised training programmes include courses, guidelines, protocols, manuals, and mentoring systems.

There are many organisations (often external and commercial) offering general training that includes skills relevant for CBR. These training programmes have been excluded from the inventory although they might be very useful. This work package is aimed at science shops and their ability to meet the demand for training. Because customised training are focused on the specific skills for CBR, this inventory focuses on customised training only. In the USA and the UK there are specific training programmes for students related to working with, for or in community groups. Often these trainings are part of a student programme like service learning (USA) or community-based learning (UK). Elements from these trainings might also be interesting for CBR. Since service learning programmes do not have an explicit research component they are not included in the inventory of this project.

3 Method

The basic methodology of this work package is a survey of existing data (e.g. literature or non-published material collected for internal purposes by relevant actors), that is extended to interviews to generate new data when required. The depth of the research is limited by time and resources. The focus is on findings of practical importance, with less emphasis on theory. There is also a focus on specific aspects of community-based research and the opportunities and needs to train skills needed in the process of CBR. Therefore a qualitative analysis has been made of the existing customised training programmes and the needs for those programmes.
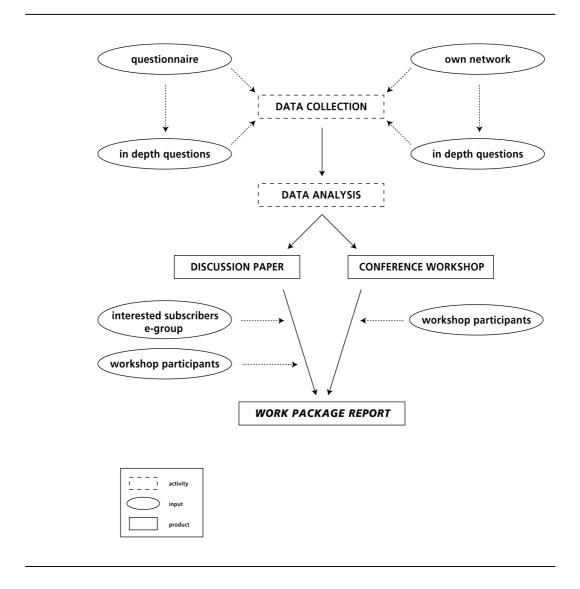
As a first step, an inventory of existing customised training materials was made. This identified the kind of training materials available and their use. Next, a general questionnaire was sent out to 151 science shop-like organisations which included questions about existing customised training programmes and material and the knowledge of such training programmes and material.

Based on the results of the SCIPAS questionnaire respondents with training programmes were asked to give information about training programmes for coordinators and researchers and the effect or impact of the training more in detail. This information was collected using email or telephone on an individual basis. Based on own insight in the availability of customised training programmes in the Netherlands missing training programmes were added. As much as possible the training material was collected in order to compare the different resources in a quick scan. The information has been categorised using a matrix. The matrix provided an overview of existing customised training methods and training subjects.

In addition, information about existing training has been obtained from different respondents of the questionnaire related to the expected need for training. The responses were mainly related to existing training programmes. Additional information was gathered from some organisations on the need for training programmes. Selection of these organisations was based on the responses from the questionnaire and the own network. Newly created organisations like some Canadian Community University Research Alliances (CURA's) and Romanian Intermediu's) were asked about their specific needs for customised training. Experienced science shops in the Netherlands were asked about their training needs as well. In cooperation with the National Boards of Dutch Science Shops (LOW), an inventory of training needs for staff and volunteers was created.

Based on available information, a discussion paper was written for the 106 participants of the conference 'Living Knowledge: building partnerships for public access to research' that was held in Leuven (Belgium) from January 25 - 27, 2001. One of five workshops at the conference discussed customised training programmes. This workshop was attended by 22 people interested in customised training programmes. At the workshop the most important skills for different target groups were discussed. To get most input from the participants they were asked to write down the two most important skills for coordinators, graduated researchers, students, supervisors and community groups. Finally this was discussed in a plenary session. The participants of the workshop were also asked to give feedback on the discussion paper. The work process is drawn in figure 1.

Figure 1: Work process of work package on training programmes

4 *Present situation*

Information about the current situation of science shops was gathered using a questionnaire, sent to 151 organisations involved in CBR. The results of this questionnaire (n=56) are used in several work packages. As expected, responses to the questionnaire, clearly indicates that there many differences among the science shops in the way they are organised and function. These differences between the types of science shops are displayed using cluster analysis (Gnaiger & Martin, 2001). The results are related to the expected clusters (see table 1) but in some cases they have to be generalised.

From the questionnaire and the additional information can be reported that 35 organisations do have training for coordinators, researchers or community groups (see appendix 1). Appendix 1 gives an overview of the type of organisations that do have customised training programmes and their target group. The type of training programmes is worked out more in detail for coordinators (or staff) and researchers (graduated and students). The appendix also shows whether the organisation that offers the training is university based or not. The appendix also shows whether the organisation in based in Europe or in the USA or Canada. Half of the respondents of the questionnaire do have training programme available for staff or researchers the other half do not have those programmes.
Table 2 gives a summarised overview of the target groups of the customised training programmes as shown in appendix 1.

Table 2: Overview of target groups for customised training programmes

all organisations		university based organisations	
with customised programmes	33	with customised programmes	28
• for staff and researchers	10	• for staff and researchers	9
• only for (new) staff	7	• only for (new) staff	5
• only for researchers	15	• only for researchers	12
• for community groups	7	• for community groups	6

Organisations with customised training programmes (33) train new staff (17) or researchers (25). From these organisations, 10 have training programmes for both groups both groups (10) or others similar community groups (7). More detailed information about the customised training programmes was available from 23 of these organisations. Based on the small number of respondents, no distinction can be made between the different types of science shops. Since most organisations with customised training programmes are attached to universities (28) students are an important group offered training. Of the university based organisations, 21 indicated that they offer training for students. Fourteen organisations have training programmes for their coordinators of CBR while 9 organisations have programmes for both groups. Six organisations have customised training material or training programmes for other target groups like community groups.

Students are the most common researchers involved in science shop projects or CBR. Science shop staff however has carried out research as well. Coordination and management of projects is mainly the task of science shop staff or volunteers. Clearly, research skills are important for staff and students while management skills are important for staff and volunteers.
Only 21% (12) of all respondents to the questionnaire know about customised training programmes offered by other science shops.

Organisations with training material for their (new) staff provide written instructions for working in the organisation and do's and don'ts. Some of these organisations also developed a customised training programme.

Not all of the 33 organisations with customised training programmes have documented training materials as well. The inventory provided 46 examples of documented customised training materials related to relevant skills for community based research. Appendix 2 provides an overview of documented training material of organisations and some of the characteristics of the specific programmes. Some organisations like the Utrecht science shops use shared training materials and offer shared programmes because they are members of a network of science shops (Cooperation Utrecht Science Shops, SUW). Appendix 3 gives an overview of the content of the different training materials. It includes courses, guidelines, manuals and protocols. References to the documented materials are found in chapter 8.

5   *Analysis*

The results of the inventory are separated into three types of customised science shop training for CBR; for coordinators, for researchers in CBR and for community groups. In some organisations these functions are combined for staff, while in others they are not. The activities of a coordinator differ from the activities of a researcher such that customised training programmes are also differentiated.

Customised training programmes used by science shops can be categorised by different discriminating factors. From the inventory of customised training programmes 4 discriminating factors are distinguished. The result of this discrimination is shown in table 2. There is a hierarchy in the discriminating factors because for organising the proper training in the right way some factors should be selected on before others. The hierarchy in discriminating factors is not based on importance but on a process.
The first discriminating factor is the target group of the training. The type of training is determined by the by the group needing training and the abilities of the science shop to provide the required training. Secondly it is important what the group should be trained on, what is the biggest need for training the target group in the context of the science shop. Given the target group and the subjects the next step will be the selection in the organisation of the training. The last factor is the selection of the material to use for a customised training.

Table 2: Main items of customised science shop training programmes

DISCRIMINATING FACTOR	ITEM	DIVISION	SUB DIVISION
Target group	• coordinators • researchers • communities	 • paid/volunteers • students • groups • organisations	 • higher education • university
Subject	• communication • process of CBR • team work • philosophy of CBR • house rules of science shop • research methods	• oral • written • management • planning • budgeting	
Organisation	• type • approach • place	• self study • mentoring • individual route • group training • theoretical • practical • curriculum • additional	
Material	• manual • course • video		

Appendix 3 provides more detailed information on the content of the specific customised training programmes related to the discriminating factors in table 2. This appendix is a result of the inventory on training programmes. The results from the workshop on training programmes at the Living Knowledge conference is in appendix 4. This information can be used to check the needs for customised training programmes. In appendix 2 and 3 details can be found of the available documented training programmes. In chapter 8, References, an overview of the available documented resources is given. This includes also the references not cited in the text of this report. The appendixes and references can be used for searching appropriate training programmes or the selection of aspects that should be included in those programmes.

In this survey the organisations and their trainings will be analysed by the first discriminating factor, the target group of the training.

5.1   Training for science shop coordinators

A few organisations have customised training programmes for science shop coordinators. Most organisations involved in CBR have a modest limited budget and a small paid staff (< 5 people) or a few volunteers. For those organisations it seems to be not efficient in terms or time and money to develop or organise a customised training programme. Some organisations, like most Dutch and Romanian science shops, have manuals for new staff. Most of these manuals deal with an assortment of practical matters about the organisation. Some discuss the process of managing a CBR-project more in detail (e.g. Science Shop for Biology Utrecht (WBU) (Anepool et al, 1989), Science Shop for Physics Utrecht (WNU) (WNU, n.y), Science Shop Tilburg (KUB), (Sliedrecht & Avoird, 2001), Science Shop Nijmegen (KUN) and Intermediu Bacau (IB). Most customised training material for coordinators has been developed by science shops that do have a constant input of new (temporary) coordinators, i.e. science shops that work with volunteers or science shops that are part of a network of science shops like the Utrecht science shops. Science shops that work with volunteers as coordinators of projects (KUN, KUB), organise training courses on a regular basis. Other science shops use the manuals for self-study and as a reference book. Although not all organisations have documented training programmes, as in most organisations, there is some mentoring or coaching of new staff. Most of this mentoring appears to be unstructured. There are some organisations (EcoResearch Chair of Environmental Law and Policy (ELP) of the University of Victoria, Jacksonville Community Council (JCCI), Science Shop for Chemistry Utrecht (CWU) (CWU, 1997), Science Shop Maastricht (UM), and Science Shop Bonn (WilaB)) that explicitly mentor new staff or volunteers as a training programme.

There is also some general material available on the science shop aspect of CBR that is relevant and informative for everybody involved in science shops and CBR, like the Community Based Learning Team (CoBaLT) videos (Hall & Hall 1998, 2000[a], 2000[b]). The inventory of the LOW on training needs for science shop staff makes clear the training needs are in the field of processes like management and coaching. From the workshop at the Living Knowledge conference (appendix 4) it became clear there is also a need for practical skills like fund raising and acquisition

5.2   Training for researchers

All researchers need knowledge on how to carry out an adequate research by correctly identifying the t subject and using appropriate methodology. Communication of research results is even more crucial for CBR than in a regular scientific department. Furthermore, the

framing of the research subject and interaction with the client – the specific community group are essential factors for success.

The inventory in this work package clearly show that there are many different types of training opportunities for researchers. The academic setting of most of the organisations in this inventory results in the fact that many of the researchers are students- although there are others.

Every organisation offering training has its own customised training format and accompanying material. These are differentiated into two groups. There are general trainings in CBR and project related trainings in CBR.

The first type of training is an introduction in CBR and the science shop role in CBR. Specific aspects of CBR and skills for CBR and science shop projects are introduced briefly. Attention is paid to communication, planning and relational aspects in science and community. The conference workshop indications were that these items were considered most important for (student) researchers (appendix 4). This first type of training is part of an introduction in CBR in some academic curricula. Examples of this type of training can be found at the Department of Geography and Earth Sciences of Brunel University (G&ES), WBU (WBU, 2000), Community Information System Centre (CISC) of the University of West England (CISC 2000) and the Environmental Studies Program (ESP) of the University of Toronto (ESP, 2000). The second type is typified as 'learning by doing'. The researcher carries out a actual community based research. In comparison to Europe, the USA and Canada context, pays more attention to participatory research or Participative Action Research (PAR). Organisations like the Policy Research Action Group (PRAG) of the Loyola University Chicago offer training for students in conducting PAR (CURL, 2000). Most university based science shops train their students in CBR by offering a manual or a course. During the research, attention is paid to relevant skills needed for CBR. The CBR skills provided depend on the experience of the researcher and the framework of the research. Some organisations use manuals for training skills that are important for CBR, e.g. how to get started, planning, communication or specific research methods (e.g. Intermediu (ICI) of the Technical University of Iaşi (Teodosiu et al, 2001), WBU (WBU, 1999; Anepool & Klostermann, 1997; Joosse & Verheijen (2000), KUB (Avoird, 2000)) and Practical Social Research (Hall & Hall, 1996). Some organisations offer group projects only, others offer group projects and individual projects. The group projects often are part of a student course (e.g. GE&S, CISC, CoBaLT, Science Shop for Medicine Utrecht (WGU), Science Shop for Law Utrecht (WRU, 2000)). Individual projects can be case studies in a student course, solo student projects as part of the graduation route or projects of science shop staff. When the CBR project is part of a curriculum specific research techniques related to the subject of research will be trained as well, like in the CoBaLT course 'Applying Social Research' (Hall & Hall, 1996). Interviews with coordinators of new science shops (Canada, Romania) and the Dutch inventory of training needs for science shop staff make clear that there is less need for training on specific research techniques when a graduated researcher, like science shop staff, is carrying out the research.

5.3   Training for community groups

Only 7 organisations indicated organising training material for community groups. Some materials(e.g. CoBaLT) are meant to facilitate and contextualise the process of CBR for community groups. The Community Partnership Center (CPC) of the University of Knoxville offers an integrated training programme for coordinators, researchers and community groups to promote participation in CBR (CPC, 1999). Also PRAG has a PAR programme for community groups. WilaB offers training for community groups to train them in how to initiate specific activities (Häusler, 1998). ICI and IBI offer training programmes for community groups to increase the understanding of research and researchers. CWU offers thematic manuals for community groups to increase understanding of specific fields of science (Haselager and Londo, 2001; Londo 1996).

The trainings for community groups are all very different in purpose and character. Some are structural while others are incidental. Most training material is related to a specific field of research or research topic.

At the Living Knowledge workshop on training programmes as most important general aspects for training of community groups empowerment, understanding of use of scientific information and communication were mentioned (appendix 4).

6 Conclusions and discussion

A range of customised training programmes for doing community based research are available from sources in Europe and North America. These training programmes include many formats including, courses, manuals, guidelines, group projects and self-study. Most include accompanying training materials. This inventory of training programmes clearly shows that information about training programmes and material is scattered. When distributed outside the originating organisation, it is done in an informal and incidental way. Much information exists however, it is not easily accessible and does not get the priority it deserves. To increase the efficiency of accessing relevant training programmes, there need to be a structured and co-ordinated effort. The information needs to be easily available for those interested in doing CBR.

Training programes

For most science shops, doing CBR is divided in two main tasks: co-ordinating the process of CBR and conducting the research of CBR. Training programmes are developed for both tasks. Two general types of programmes exist: courses and instructional materials. Most courses have a preformatted programme with activities while the instructions mainly are manuals to be read by new coordinators or researchers.

Since most science shops are small organisations it is easier to work with instructions instead of courses. Courses are more time consuming, more expensive and more difficult to organise when needed. Instructions can be given to new coordinators or researchers when needed. Of course there are different reasons fore using one or another type of training depending the possibilities of the organisation and the need of the trainee.

Often the use of manuals is without obligations where as courses are not that free of obligations. Manuals can best be used in addition to courses. Manuals as a tool for self-study are useful but seem to be less effective if they are not related to a course. Most small organisations cannot use customised courses because of the costs and the small number of participants. When operating in a network of organisations customised courses can be scaled up so they become more cost-effective. The SUW, the Utrecht network of science shops, was successful in initiating customised training course in this way. Also the LOW inventory can be seen as a positive effect of a network related to training. Although international cooperation in organising customised course is more complex this idea can be worked out more in detail. Short customised training programmes can be part of meetings of members of the international network and others interested people. These meetings can be organised as separate courses (e.g. summer schools) or as thematic parts of the intended bi-annual international conference of the International Science Shop Network during, right before or after the conference. These training programmes can be customised in a way that they focus on specific research topics or skills for working in a science shop setting that are relevant for members of the international network or on generic skills needed when working in the field of CBR.

Database

Although there are many local differences in existing training programmes there are also common elements in these programmes and manuals. An (online) overview of these programmes and manuals will be very useful for members of the international science shop network, especially when it is about customised training (see appendix 3). The workshop discussion at the Living Knowledge conference on training needs as well as the SCIPAS questionnaire that was sent out made clear that there is hardly any knowledge awareness of the existence customised training programmes offered by other science shops.

A database on customised training for science shops can be used to select existing methods, or subjects or elements from both that do fit best in the local situation of a science shop or that do fulfil best the specific needs at that time.

The overview should include type of training, target group and subjects of training and of course the ownership of the training. This database should be included in the general database of the international network of science shops. The general database will be discussed in a separate study of SCIPAS (Chopyak, 2001). Examples of a database of training programmes can be found at the database of the National Service Learning Clearinghouse (NSLC). It gives an extended overview of service learning courses as does Communication for a Sustainable Future (CSF).

Science Shop coordinators

Coordinators at science shops tend to be a homogeneous group. Generally, co-ordination of CBR uses similar skills are needed all over the world although social and cultural differences might need a different bias on specific skills. More or less universal skills trained now are communication skills and management/planning skills in a CBR setting. Most documented training materials on coordinating CBR are from Dutch science shops and written in Dutch. Although there are training materials in skills for coordinating CBR available there is a need for more and easier accessible material. Translating some of the documents in English can increase accessibility.

Because science shops are often small organisations with a very restricted budget it is not efficient to develop tailor made courses themselves. For these organisations it is much more efficient to apply for training programmes in the regular circuit of management trainings. Although these training programmes are not customised they will focus on some skills that are relevant for people involved in CBR at least. A database with customised training programmes provided by the International Science Shop Network will provide important added value. There is a need for courses and material in addition to the existing ones. Preferably the training programmes included in the database will be customised but relevant general course might be included as well.

There is a need for training programmes in strategic management, public relations and fundraising. New science shops expressed the need for these training items. This expression of need may be caused by limited accessibility or ignorance of the existence of the material. The latter might be due to language problems or cultural differences. The ignorance is due to the absence of a good documentation system or an active network.

Researchers

Researchers in CBR are a less homogeneous group because of the differences in the organisation of science shops (e.g. inside or outside universities, see table 1) and the differences in university systems and curricula. An overview of training for researchers will be useful only if it is clear the training is part of what curriculum and in what period/phase. There is a wide variety of goals of training researchers in CBR, from theoretical training about do's and don't and ethics up to learning by doing in a case study.

The theoretical trainings can be generalised and distributed more easily than the case studies because the latter ones are very specific in subject and situation. The latter however can be used as examples or blueprints for other case studies. In an overview of training programmes they should be categorised by subject (e.g. environment, health, humanities, etc.).

When training focuses on specific research topics there might be a low number of potential participants when organised at a local level. It may be useful to explore the possibilities of synthesizing information from different cases into a general course on specific research topics. This course can be distributed through the international network or organised by the

network as part of the intended bi-annual international conference of the International Science Shop Network during, right before or after the conference. It might also be organised as subject in an international summer school programme.

Community groups

Of course community groups are the most heterogeneous science shop target group for training programmes. In general training programmes can be organised to support community groups to act independently or to support community groups to participate in CBR. Training to support community groups can be an important factor for increasing understanding of research, researchers and the use of research. It can also be important to train community groups to act in a process of policy making. Training and increasing participation processes in CBR can be important to increase mutual understanding of researchers and community groups in the project but also to increase involvement in the project. At the moment participation of community groups is worked out in a very different way at science shops. Participation (e.g. PAR) is much stronger an issue in the North-American discussion about CBR as it is in the European discussion. Training of community groups is important because it will increase the public understanding of both the beneficial impact as well as limitations and possible implications of science and its developments. Besides this training of community groups is important to increase the efficiency and efficacy of the CBR process. Both aspects of training community groups need to be worked out more, taking in account the cultural context in North-America, Europe and elsewhere.

Contexts

These differences in context not only influence the university – community relationship, whether locally or in a transatlantic perspective. Contexts make the differences between science shops all over the world (Mulder et al, 2001). There is no blueprint for a best structure or content of training programmes. On the other hand existing training programmes can be generalised more. It is important to understand both the differences and parallels produced by different contexts. More attention should be paid to similarities and transferable issues in existing training programmes. A closer look on needs and the content of different training programmes for CBR within different socio-economic and cultural contexts is needed.
For all target groups there are examples of interesting training material. CoBaLT's Code of Practice (Lockely et al, 2000) is an example of a document that will be useful for al participants in CBR. The Manual Research Agreement (Anepool et al, 1989) of WBU is an example for training of researchers as is the mediation course of KUB (Sliedrecht & Avoird, 2001) for training coordinators.
At least for each cluster of science shops (see table 1) a blueprint for good training programmes could be useful. The material collected in this inventory is a good starting point for making a blueprint of some of the clusters of science shops.

Impact

Although contexts may be different, the impact of training programmes is comparable. An extended and updated overview of what is available for each target group and training topic and the impact of training programmes will be very useful. It even might be one of the main benefits for an international network of science shops.
Improved documentation makes it easier to select the needed training and more effort can be made to improve professionalism of science shops and community groups. Documentation about the impact of customised training programmes is lacking because there is hardly any evaluation available.

Evaluation is not only important to increase the visibility of the impact of training programmes but also as a tool to assess the quality of training programmes and its material. The International Network of Science Shops will investigate the possibility to develop benchmarks for individual organisations and the network itself (Gnaiger & Martin, 2001). This will assure a set quality of the activities of the members of the network and their products. Also the available training programmes should be part of the quality control programme.

This inventory makes clear that there is a need for a protocol for standardisation of the documentation on training programmes in order to improve accessibility impact and quality of available customised training programmes, courses, accompanying material like manual and guidelines.

7 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 customised training programmes for 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?

From this report it is clear that customised training programmes can be very useful tools for the science shops role in the process to increase public awareness and understanding of science and therefore are an essential element of an international network of science shops. The spin off of training programmes will be optimised when disseminated through a network of cooperating organisations. An international network of science shops will improve the spin off of training programmes on the one hand while amongst others the dissemination of information on training programmes will increase the strength of a network.

From this inventory of existing training programmes it becomes clear that in order to improve the dissemination of information on training programmes in an international network attention has to be paid to:

- Need better documentation of training programmes. Current information on training programmes and material is too scattered and not easily accessible.

- Develop protocols on the use of evaluation programmes for existing training information (courses, manuals, guidelines). There is a lack of information on the impact of training programmes.

- Study impact of training programmes. This will increase the visibility of the added value of training CBR in academic curricula and in the public understanding of science.

- Develop a quality control programme on customised training programmes.

- Develop customised training programmes on strategic management, fundraising and public relations.

- Develop a set of general training programmes within each cluster of science for each target group and an introductory set for each training item.

- Translate good examples of training materials in English.

- Develop new training programmes pro-actively. New activities in a developing international network of science shops will face new needs for training programmes.

- Develop and maintain a database of customised training that includes as much relevant training programmes as possible. In order to benefit as much as possible from the

database there has to be specific search functions. At least the database has to be searchable by target group of training, subject of training, type of training and available material and its combinations.

- Develop and implement a work programme of an international network of science shops on training, including the previous recommendations.

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Appendix 1: Training material

Results from questionnaire and additional information

Org.	Type org	staff	res	others	Regular external	mentor	manual	course	Regular curric.	man	g.course	p.course	sv	video
CISC	u-EU		x									x		
CoBaLT	u-EU	x	x	x					x		x	x	x	x
CPC	u-UC		x	x						x		x		
CWU	u-EU	x	x	x		x	x							
DTU	u-EU		x							x		x		
ELP	u-UC	x				x								
ESP	u-UC		x								x	x		
FCR	nu-UC	x												
FXU	u-UC		x											
IB	u-EU	x	x							x	x			
IBI	u-EU		x	x										
ICI	u-EU	x	x	x								x		
IG	u-EU	x	x									x		
ISS	nu-UC		x											
JCCI	nu-UC	x				x								
KUB	u-EU	x	x				x	x		x	x			
KUN	u-EU	x					x	x						
PRAG	u-UC		x	x								x		
SSRG	u-EU		x								x	x		
SUW	u-EU	x				x	x							
TUD	u-EU	x	x				x			x				
UL	u-UC		x											
UM	u-EU	x			x	x								
WEG	u-EU		x	x							(x)			

Org.	Type org	Training for			Coordinator training				Student / researcher training					
					Regular	Customised			Regular	Customised				
		staff	res	others	external	mentor	manual	course	curric.	man	g.course	p.course	sv	video
WBU	u-EU	x	x		x		x	x	x	x	x	(x)		
WGU	u-EU		x							x		x		
WGVG	u-EU		x											x
WilaB	nu-EU		x	x										
WilaG	u-EU	x												
WLI	u-UC	x	x											
WNU	u-EU	x					x							
WRU	u-EU		x							x		x		
YCL	nu-UC	x	x											

Legenda:

see appendix 5 for information about organisations like abbreviations and addresses.

org: organisation
res. researchers/students
regular external: non customised training
g.course: general course
man.: manual
u: university based
EU: Europe

staff: science shop staff/coordinators
others: other target group (e.g. community groups)
regular curric.: training in regular curriculum
p.course: project course
sv: supervision
nu: non-university based
UC: USA or Canada

Customised Training	Org.	Target group				Duration	Period	Type of training					Format		
		staff	res.	stud.	com.gr	(hrs)		self	indiv.	group	pract.	theor.	man.	course	misc.
Information Systems Practice 1, 2 and 3	CISC			x			..-			x	x	x		x	case
Learning in the Community (Achievement)	CoBaLT	x		x	x	n.r.	1998	x					x		video
Researching in the Community (Partnership)	CoBaLT	x		x		n.r.	1999	x					x		video
Learning in the Community (Community)	CoBaLT	x		x	x	n.r.	1999	x					x		video
Survey Research in the Community	CoBaLT	x		x	x	n.r.	2000	x							video
Code of Practice	CoBaLT	x		x	x		2000	x					x		
Applying Social Research	CoBaLT			x		270				x	x			x	case
Planning Team Approach	CPC		x		x	n.r.	1993-			x	x		x		case
Community Based Research	CWU	x		x		n.r.	..-		x		x	x	x		
Thematic information	CWU	x			x	n.r.		x					x		
Cooperation with user groups	DTU			x		120	1986 -			x	x		x	x	
Practical Environmental Skills	ESP			x			..-			x	x	x	x	x	case
Professional Experience Course	ESP			x		262	..-		x	x	x	x	x	x	case
Environment and Society	IB		x			??	2001			x	??	x	??	x	
Organisation manual	IB	x		x		n.r.		x					x		
Reporting for Community Groups	IB		x	x		??				x	x	x		x	
Research Project	IBI			x		??	2000			x	x				case
Environmental education	IBI				x					x	x			x	case
Evaluation of project	ICI			x		12	1999 -			x	x	x		x	case
Teaching Community Groups	ICI			x	x	10	1999 -			x		x	x	x	
Project Management and Teamwork	ICI			x	x	40	2000			x	x	x	x	x	case
Project Development	ICI			x	x	8	2000			x		x		x	
Distance Learning	ICI	x				16	2000			x		x		x	
Mediation	KUB	x				16	2001			x	x	x	x	x	case
Publication	KUB		x	x		n.r		x			x	x	x		
Work manuals	KUB	x				n.r		x				x	x		
Conflict management	KUN	x				n.r.	1997 -	x			(x)	x	x		
Need inventory	KUN	x					1989 -	x				x	x		
Meeting	KUN	x								x	x	x		x	

Customised Training	Org.	Target group				Duration (hrs)	Period	Type of training					Format		
		staff	res.	stud.	com.gr.			self	indiv.	group	pract.	theor.	man.	course	misc.
Work manual	KUN	x					1999 -	x				x	x		
Advising	KUN	x		x		32				x	x	x			
CBR Internship Program	PRAG			x		200	1989 -		x		x				case
Research in the Community	SSRG			x						x	x			x	case
Team Project	SSRG			x						x	x			x	case
Acquisition and Networking	SUW	x				12	1997			x	x	(x)	x	x	
Coaching and advising	SUW	x				16	1999			x	x	(x)	x	x	
Work Manual	TUD	x				n.r		x				x	x		
Mediation	WBU	x	x			9	1985-1992			x	x			x	
Mediation manual	WBU	x	x			n.r.	1989-	x			(x)	x	x		
Community Based Research (s)	WBU			x		28	1996-			x	x	x	x	x	case
Community Based Research (l)	WBU			x		240	1983-1993			x	x	(x)		x	case
Research Agreement	WBU		x	x		n.r.	1987-		x		x		x		case
Short Research	WBU			x		n.r.	1999-		x		x		x		case
Biology, Management and Society	WBU			x		40	1988-			x	x	(x)	x	x	case
Manual on writing	WBU			x		n.r	1999 -	x			x	x	x		case
Master class Community Based Research	WEG			x		16	2001			x	(x)	x		x	
Written communication	WGU			x		200	1997			x	x		x		
Local Agenda 21	WilaB				x					x	x	x	x	x	case
Work manuals	WNU	x				n.r.	..-	x				x	x		
Community Based Research	WRU			x			.. -		x	(x)	x	x	x		case

Legenda:

see appendix 5 for information about organisations like abbreviations and addresses.

org: organisation	n.r.: not relevant	hrs: hours
p.course: project course	g.course: general course	misc.: miscellaneous
man.: manual	(s): short	(l): long
res. researchers	stud.: students	com.gr.: community groups
indiv. individual	self: self study (not supervised/coached)	
pract: practical	theor.: theoretical	

Appendix 3: Content of documented customised training material

Customised trainings	org.	comm.		gen.res.tech.		project management			rules	team	u<>c
		oral	written	qual.	quant.	planning	managm.	budget			
Student Consultancy Projects	CISC	x	x	x	x	x				x	
Learning in the Community (Achievement)	CoBaLT	x			x	x	x			x	
Researching in the Community (Partnership)	CoBaLT	x			x	x				x	
Learning in the Community (Community)	CoBaLT	x			x	x				x	
Survey Research in the Community	CoBaLT	x			x	x				x	
Code of Practice	CoBaLT					(x)	(x)		x		
Applying Social Research	CoBaLT	x		x	x	x					
Planning Team Approach	CPC	x		x	x					x	
Community Based Research	CWU	x				x					
Thematic information	CWU			x	x						
Cooperation with user groups	DTU	x		x		x					
Practical Environmental Skills	ESP	x	x	x		x	x				
Professional Experience Course	ESP	x	x	x	x	x	x				
Research in the Community	G&ES	x									x
Team Project	G&ES	x	x	(x)	(x)	x				x	x
Environment and Society	IB										
Organisation manual	IB		x	x		x	x		x		
Reporting for Community Groups	IB		x								
Research Project	IBI		x		x						
Environmental Education	IBI			x	x		x				
Evaluation of project	ICI	x	x	x	x						
Teaching Community Groups	ICI	x	x	x							
Project Management and Teamwork	ICI	x				x	x			x	
Project Development	ICI	x	x				x			x	
Distance Learning	ICI	x	x								
Mediation	KUB	x	x			x	x		x		
Publication	KUB		x			x			x		
Work manuals	KUB	x	x	x		x	x		x		
Conflict management	KUN	x		x							

Customised trainings	org.	comm.		gen.res.tech.		project management			rules	team	u<>c
		oral	written	qual.	quant.	planning	managm.	budget			
Need inventory	KUN			x	x						
Meeting	KUN	x									
Community Based Research	KUN	x	x			x					
Advising	KUN	x		x			x				
CBR Internship Program	PRAG			x	x		x				x
Acquisition and Networking	SUW	x		x			x				
Coaching and advising	SUW	x		x		x	x				
Work manual	TUD								x		
Mediation	WBU	x		x		x	x				
Mediation manual	WBU	x	x			x			x		
Community Based Research (s)	WBU	x	x	x	(x)	x	(x)			x	
Community Based Research (l)	WBU	x	x	x	x	x	x			x	
Research Agreement	WBU		x	x	(x)	x					
Short Research	WBU		x			x					
Biology, Management and Society	WBU	x	x	x	(x)	x				x	
Manual on writing	WBU		x						x		x
Master class Community Based Research	WEG						(x)				x
Written communication	WGU		x			x	x			x	
Local Agenda 21	WilaB	x		x							
Work manuals	WNU	x	x	x		x	x		x		
Community Based Research	WRU	x	x	x		x					

Legenda:

see appendix 5 for information about organisations like abbreviations and addresses.

org: organisation	comm.: communication	
gen.res.tech.: general research techniques	qual.; qualitative	quant.: quantitative
rules: house rules	team: teamwork	u<>c: aspects of university – community relations
managm.: management	(s): short	(l): long

Appendix 4: Summary of workshop results

22 People participated the workshop 'Training needs and programmes for science shops'. The workshop participants had to answer the question for the target groups 'coordinators', 'graduated researchers and students', 'supervisors' and 'community groups' what 2 aspects or skills they found are most important to train for the specific target group.
The individual results were discussed in small groups per target group. As a result from the plenary reporting and discussion the following aspects or skills per target group were seen as most important.

Coordinator
(person who brokers the research and often supervises the process of research project)
- communication skills
- mediation skills
- negotiation skills
- coaching skills
- conflict resolution
- project management
- strategic management
- acquisition
- fund raising

Graduated researcher and student
(graduated researcher: person who is carrying out the research
student researcher: researcher who is carrying out the research as part of a curriculum)
- contextualisation of research
- communication skills (oral and written)
- initiation and adaptation of methods
- awareness and understanding of community needs
- time management
- responsibility and involvement
- academic research skills
- team work

Supervisor
(supervisor: person who supervises the scientific quality of the research)
- framing of research projects
- scientific expertise
- coaching skills
- multidisciplinary approach
- promotion skills

Community group
community group: (representative of) community group with (potential) request for research
- empowerment
- self reflection
- understanding of use of scientific information
- knowledge of research methods
- awareness of scientific possibilities
- communication with different intensions

Appendix 5: Organisations

CISC
Community Information Systems Centre. University of West England, Bristol, UK
http://cisc.uwe.ac.uk

CoBaLT
Community Based Learning Teamwork. Liverpool Hope University, University of Liverpool, University of Birmingham, UK
http://www.hope.ac.uk/cobalt

CPC
Community Partnership Center. University of Tennessee, Knoxville TE, USA
http://sunsite.utk.edu/cpc

CSF
Communications for a Sustainable Future. University of Colorado, Boulder CO, USA
http://csf.colorado.edu/sl

CWU
Science Shop for Chemistry (*Chemiewinkel Utrecht*), Utrecht University, the Netherlands
http://www.chem.uu.nl/cw/www

CURA
Community-University Research Alliance, project funded by the Social Sciences and Humanities Research Council of Canada (SSHRC), Ottawa, Canada
http://www.sshrc.ca/english/programinfo/grantsguide/cura.htm

DTU
Science Shop of the Danish Technical University. Lyngby, Denmark
http://www.its.dtu.dk/vb/eng

ELP
EcoResearch Chair of Environmental Law and Policy. University of Victoria, Canada
http://www.law.uvic.ca/~elp

ESP
Environmental Studies Program. Innis College, University of Toronto, Canada
http://www.utoronto.ca/envstudy

FCR
Forest Community Research, Taylorsville CA, USA

FXU
St. Francis Xavier University. Antigonish, Nova Scotia, Canada
http://www.stfx.ca/

SSRG
State and Society Research Group. Department of Geography & Earth Sciences. Brunel University, London, UK
http://www.brunel.ac.uk/depts/geo/ssrg/ssrg_home.html

IB
Intermediu. Faculty of Letter and Sciences. University of Bacau, Romania
http://www.ub.ro/

IBI
Intermediu Information and Research Center for the Civil Society. Faculty of Biology
University 'Al.I. Cuza'. Iaşi, Romania
http://www.uaic.ro/

ICI
Intermediu, Faculty of Industrial Chemistry, Technical University Iaşi, Romania
http://www.tuiasi.ro/home_page.en.html

IG
Intermediu Research and Information Center. 'Dunarea de Jos' University Galati, Romania
http://www.ugal.ro/

ISS
Institute for Southern Studies, Durham NC, USA

JCCI
Jacksonville Community Council Inc.. Jacksonville, FL, USA
http://www.jcci.org/index.htm

KUB
Science Shop Tilburg University (*Katholieke Universiteit Brabant*), the Netherlands
http://cwis.kub.nl/~dso/wewi

KUN
Science Shop Nijmegen University (*Katholieke Universiteit Nijmegen*), the Netherlands
http://www.kun.nl/wetenschapswinkel

LOW
National Board of Dutch Science Shops (*Landelijk Overleg Wetenschapswinkels*), the
Netherlands
http://www.wetenschapwinkels.nl/

NICSL
National Service-Learning Clearinghouse. Department of Work, Community & Family
Education, University of Minnesota
http://nicsl.jaws.umn.edu/

PRAG
Policy Action Research Group, Loyola University of Chicago, IL, USA
http://www.luc.edu/depts/curl/prag

SUW
Cooperation Utrecht Science Shops (*Samenwerkingsverband Utrechtse
Wetenschapswinkels*) Utrecht University, the Netherlands
http://www.uu.nl/wetenschapswinkels/english

TUD
Science Shop Technical University Delft, the Netherlands
http://www.wewi.tudelft.nl//info/index.cfm?PageID=1241

UL
Université Laval, Quebec, Canada
http://www.ulaval.ca/

UM
Science Shop University of Maastricht, the Netherlands
http://www.ssc.unimaas.nl/wetenschapswinkel/

UU
Utrecht University, the Netherlands
http://www.uu.nl/uupublish/home/english/1757main.html

WBU
Science Shop for Biology, (*Wetenschapswinkel Biologie Utrecht*) Utrecht University, the
Netherlands
http://www.bio.uu.nl/scienceshop/

WEG
Science Shop for Economics (*Wetenschapswinkel Economie Groningen*) University of
Groningen, the Netherlands
http://www.eco.rug.nl/wewi/

WGU
Science Shop for Medicine (*Wetenschapswinkel Geneesmiddelen Utrecht*), Utrecht
University, the Netherlands
http://www.uu.nl/wetenschapswinkels//geneesmiddelen

WGVG
Science Shop for Medicine and Public Health *(Wetenschapswinkel Geneeskunde en
Volksgezondheid*), Rijksuniversiteit Groningen. Groningen, the Netherlands.
http://coo.med.rug.nl/fmweng/b3_eng.htm

WilaB
Science Shop Bonn (*Wissenschaftsladen Bonn*). Bonn, Germany
http://www.wilabonn.de/

WLI
CURA Partnership for children and families project. Faculty of Social Work, Wilfried Laurier
University. Waterloo, Ontario, Canada.
http://www.wlu.ca/~wwwfsw

WRU
Science Shop for Law, (*Wetenschapswinkel Rechten Utrecht*) Utrecht University, the
Netherlands

WNU
Science Shop for Physics, (*Wetenschapswinkel Natuurkunde Utrecht*) Utrecht University, the
Netherlands
http://www.uu.nl/wetenschapswinkels//natuurkunde

YCL
Youth in Conflict with the Law, Ottawa, Canada

SCIPAS reports

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Success and failure in starting Science Shops
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Chemistry Shop, University of Groningen. Groningen, the Netherlands

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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

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Jill Chopyak
The Loka Institute, Amherst MA, USA

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Merete Hende and Michael Søgaard Jørgensen
Science Shop Technical University of Denmark. Lyngby, Denmark

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Maaike Lürsen & Dick Sclove
Science Shop for Biology, Utrecht University, Utrecht, the Netherlands

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Maaike Lürsen & Caspar de Bok (eds.)
Science Shop for Biology, Utrecht University, Utrecht, the Netherlands

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