

The Erasmus Virtual Knowledge Studio

Introduction

Recent transformations in communication and information exchange have created new opportunities for researchers in the humanities and social sciences. It is not self-evident, however, in what ways scholars can best use these possibilities while maintaining and further developing their specific roles in academia and society. *The Virtual Knowledge Studio for the Humanities and Social Sciences*, aims to support researchers in the humanities and social sciences in the Netherlands in the creation of new scholarly practices, termed here *e-research*, as well as in their reflection on *e-research* in relation to the development of their fields. A core feature of the *Virtual Knowledge Studio* is the integration of design and analysis in a close cooperation between social scientists, humanities researchers, information technology experts and information scientists. This integrated approach should provide insight in the way *e-research* can contribute to new research questions and methods in the humanities and social sciences.

The *Virtual Knowledge Studio* has the following goals:

- to contribute to the design and conceptualisation of novel scholarly practices in the humanities and social sciences
- to support scholars in their experimental play with new ways of doing research and emerging forms of collaboration and communication
- to facilitate the travel of new methods, practices, resources and techniques across different disciplines
- to contribute to a better understanding of the dynamics of knowledge creation.

To realise its dual mission of increasing our understanding of *e-humanities* and *e-social science*, and of supporting scholars to make use of *e-research*, the Studio has two interrelated modules: the Analytic Centre (AC) and the Construction Platform (CP). These facilitate long-term research based on a clear intellectual agenda combined with flexible short-term projects created in response to the changing needs of researchers at universities and research institutes. All projects in the CP result from, and are led by, partnerships with external research groups. Whereas the CP helps create new epistemic objects and practices in the humanities and social sciences, both inside and outside of the Studio, the AC studies this process. To facilitate this, the AC is responsible for the creation and maintenance of the Studio's inhouse knowledge database.

This implies that the Studio develops an intensive interaction with researchers at Dutch universities. This is especially the case for the research conducted in the Construction Platform, but the work in the Analytic Centre will also be relevant to universities, for example in the form of teaching material, seminars and lectures, and student projects.

As indicated in the research programme, the Studio will develop a number of different forms of cooperation with university based scholars:

- cooperation in research projects and in grant writing;
- VKS fellowships and visiting scholars;
- common organisation of seminars, workshops and lectures;
- dual careers and shared appointments;

- collaboratories: the VKS has four different collaboratories on the topics virtual ethnography, simulation, Web archiving for scholarly research, and Webometrics. Although the main focus of these collabs is international, Dutch researchers can be member of these collabs;
- lectures and presentations in courses organised by Dutch Graduate Schools;
- lectures and presentations in courses at Dutch universities;
- supervision of PhD and Masters students.

A special arrangement of institutional cooperation is the VKS Campus Site, which brings together different forms of research cooperation with researchers based on the same university. A Campus Site aims to generate an additional form of synergy between Studio scholars and university researchers by combining more research projects and by combining research and advanced forms of research training and education. The Campus Site requires additional infrastructure and investments by the host university and of human power by the VKS. This memo outlines our proposal to create a VKS Campus Site at the Erasmus University in Rotterdam: the *Erasmus Virtual Knowledge Studio* (in short: Erasmus Studio). The Campus Site with this specific research profile, focusing on social science and information science, is exclusive to the collaboration between the VKS and the EUR. This does not exclude, of course, cooperation with other universities, ranging from individual research projects to focused programmes and VKS Campus Sites with different research profiles. In the next section, the general outline of the Erasmus Studio is presented. The third section will propose the specific projects and organisation of the Erasmus Studio, tailored to the profile of the EUR and to the possibilities for research cooperation that have been explored in the past months.

Outline of the Erasmus Campus Site

The Erasmus Studio will contain the following elements:

- a research theme which expresses the main focus of the Campus Site, which expresses the specific strengths of the research at the university;
- a number of research projects in which Studio researchers and researchers at the university work together, all of them related to the central research theme;
- a dedicated Website as a joint endeavour of the Studio and the university, preferably hosted by the university library. The Website gives information about the Studio and the work in the Campus Site, provides access to research oriented information services, software tools, and links to the central Studio Website;
- a campus wide seminar or lecture series, by which students and researchers can get acquainted with the Studio research;
- teaching modules, focussing on (novel) methodologies in the humanities and social sciences, new media, and the analysis and design of scholarly practices. By default, these modules will be given in the framework of already existing Research Masters programmes;
- supervision of PhD students in so far as their research is clearly related to the Studio research, contributes to the VKS research programme and goals, and the expertise of Studio researchers adds value to the supervision;
- dual appointments of Studio researchers at the university and of university researchers in the (Campus Site of) the Studio;
- a part-time chair and its occupation by one of the senior researchers of the Studio.

The coherence of research conducted at the Campus Site in Rotterdam and the central Studio facility in Amsterdam will be maintained by exchange of personnel, dual appointments, exchange of ideas at the VKS seminars and lectures, and a yearly Studio event. Moreover, all research projects of the VKS, whether at the central facility or at the Campus Site, will be peer reviewed according to the house rules of the VKS before starting. Project progress and results are regularly discussed at the VKS seminar to which all researchers at the Campus Sites will be invited.

A solid and detailed accounting and financial system will be needed, because both the KNAW and the EUR will want to be able to know what they have actually invested in the Campus Sites and which results they have gained from the cooperation. This will usually mean some form of time registration, in any case for the part-time researchers, and a project management which is compatible with the financial systems of the KNAW and the university.

We propose that funding will be provided by both the VKS and the host university. We propose that the EUR will fund most of the activities and infrastructural costs of the Erasmus Virtual Knowledge Studio. The VKS will invest in the form of personnel, as researchers will be spending part of their work time in the Campus Site. The VKS and the university will moreover write joint applications for external funding for both research projects and infrastructural requirements of the Campus Site.

Building the Erasmus Virtual Knowledge Studio

Research theme

We propose that the research theme of the EUR-VKS Campus Site will be *information in practices*. The orientation to the social role of the university and of academic research in solving social problems is a key element in the EUR profile. This profile is, for example, represented at the EUR Website as follows:

“De Erasmus Universiteit Rotterdam is een internationale wetenschappelijke werkplaats voor kritisch denken en academische vorming, gedreven door een nadrukkelijke oriëntatie op actuele maatschappelijke vraagstukken. Zij concentreert haar expertise op vraagstukken van management, organisatie en beleid in de private en publieke sector, alsmede op het terrein van ziekte en gezondheidszorg. Het onderwijs en onderzoek zijn gebundeld in drie domeinen waarin de universiteit nationaal en internationaal een naam heeft hoog te houden: Economie en Management; Geneeskunde en Gezondheid; Recht, Cultuur en Maatschappij. De Erasmus Universiteit rekent tot haar kerntaken: kennis genereren uit onderzoek, kennis delen in onderwijs en kennis overdragen aan de maatschappij. De drijfveren zijn academische nieuwsgierigheid, kritische reflectie en maatschappelijke betrokkenheid.”

Information and ICT play an increasing role in virtually all social interactions, be they entertainment, dating, political governance and local democracy, health care, labour organisation and management, life-long learning, or scientific and scholarly research. Of course, the VKS Campus Site will not try to cover all of this. Instead it will focus on the way social scientists and scholars in the humanities may design and redesign their research practice on the one hand, and on the role of information and ICT in embedding this research in social practices in Rotterdam and environment on the other hand. Information science and

the sociology of science and technology are therefore the main disciplinary formations providing the theoretical background for this research theme. Both are social sciences.

Research projects

We propose that the following research projects will be developed in the Erasmus Studio:

- a) Merging hybrid data to study company networks (with Johan Heilbron and Dick Houtman).

Central goals of this project are: the integration of existing Dutch databases containing data on the members of Boards (Raden van Bestuur en Raden van Commisarissen) of large Dutch companies; the generation of new interdisciplinary research of these datasets; and the study of the integration of these new data sources into scholarly practices. Presently, seven databases are being used by researchers, covering the period between 1970 and 2001. However, the quality varies considerably. An integrated high quality database would help break down existing barriers between different research traditions, such as the sociological analysis of networks between companies, political science studies of the structure of economic elites, and the historical study of the development of companies and their context. This type of database integration will, we expect, help formulating new research questions transgressing the existing boundaries between different disciplines within the social sciences. It will also encourage researchers from other disciplines to participate in this research area. We expect to be able to generate new forms of international collaboration on the basis of a Web interface to the integrated database, which may further develop into a social science collaboratory.

The social relevance of this research is almost self-evident, given the debate about economic and technological innovation and the knowledge society. More insights into the long-term development of company networks may help to explore core assumptions in this debate and may thereby inform innovation and economic policy discourse. The third goal of the project will be accomplished by monitoring by ethnographic means the process of database creation and its use by researchers. The research will pay close attention to the balance between use and non-use of the databases in the relevant research communities. We expect that the results of this research will also be relevant to the construction and analysis of hybrid databases in other areas of the social sciences and humanities. The project will develop a close collaboration with DANS to ensure long term archiving and accessibility of the data sets. This may include common research projects to solve specific problems related to archiving this type of data.

- b) Digitizing the atelier methodology in governance studies (with Victor Bekkers)

Research at the Center for Public Innov@tion has developed a methodological tool which has some resemblance to the key idea of the Studio: the “atelier methodology”. This method has, for example, been used in the study of social cohesion in and around Pijnackerplein in Rotterdam, and of the role of ICT in local governance in this neighbourhood. The method is used to support a collective learning and searching process between relevant stakeholders in how to develop and match ICT innovation with policy problems. Essential is to start at manifestation of these problems at the micro-level, while the next step is to show how these micro manifestations are the result of processes at and relations between higher organizational

and interorganizational levels (e.g. the relationship between front and back offices of street level bureaucracies). The atelier fulfills different roles. As formulated in Bekkers (2004):

“Het atelier vervult meerdere functies:

- het is een ontmoetingsplaats voor verschillende disciplines (zoals de bestuurskunde, informatiekunde, sociologie en communicatiewetenschappen), waardoor een kruisbestuiving plaatsvindt tussen kennis uit allerlei domeinen;
- het is een ontmoetingsplaats voor belanghebbende partijen;
- het is een plek waar wetenschap en praktijk elkaar ontmoeten teneinde wetenschappelijke kennis toe te passen in de praktijk;
- het is een instrument om innovatie te bewerkstelligen door op een andere manier naar oplossingen en problemen te kijken.” (p. 101)

The core of the atelier method is the organization of discussion and other forms of interaction between different groups of stakeholders on the basis of the “garbage can” theory of decision making. After a round of explorative interviews and documentary research, actors from different groups are brought together to produce a “photo” of the problems of the neighbourhood as perceived by the different stakeholders. On the basis of this overview, a series of discussion rounds explore all possible combinations of problem formulations and solutions. According to the garbage can theory, decision making is not a rational linear process, but rather a chaotic process of association between solutions and problems. Solutions looking for problems are as important as problems looking for solutions. So far, the atelier discussions have been organized face to face, for instance in the local community center, and comprised both members of the local community and domain specific experts.

This project asks the question whether it is possible and fruitful to digitize parts of the atelier methodology. Would this make it possible to include a larger variety of the communities involved? Moreover, it is also possible to use this idea to support the emergence of new virtual policy communities (Bekkers, 2004). Can focus group discussions be supported by online information and monitoring of the problems discussed? Is it possible to mobilize more domain specific expertise by using other forms of discussion? Will it be possible to interface the atelier method with a larger set of other social science methods, such as social network analysis and ethnography? And does this facilitate the generation of new research questions in the area of governance studies and social cohesion? The project will also look into new ways of publishing this type of research to both academic and non-academic communities, and into the way these new forms of publishing may influence the research agenda in the social sciences (Shove & Wouters 2006).

This project, lasting two years, could start with a definition study of the atelier, focussing on the characteristics and the mechanism of the real-life discussions. From this preliminary study a first draft of a digital atelier could be made. Experiences with this first draft could be gathered during a specific period of experimenting and testing. After this period a second, more elaborated release could be made.

c) Research collaboration as gift giving (with Wilfred Dolfsma)

Does the way in which scholars cooperate electronically in joint research projects differ between the social and the natural sciences? Can this be explained in terms of structural elements (networks), and in terms of the substance of the interactions (gift exchange)? These are the central questions of this three year postdoctoral research project. The creation of new

forms of interaction, communication, and collaboration in Web based services such as collaboratories, peer-to-peer networks, virtual experiments, videoconferencing, and email lists both necessitates and enables more understanding of the mechanisms underlying group interactions and human collaboration. This projects studies collaboration in research projects and programmes, and enables a better understanding of the mechanisms. More specifically, it aims to integrate a social network perspective (sociology) with the concept of gift giving as trust building activity (STS, anthropology) in an institutionally oriented economic analysis. This is combined with a focus on the role of new media. We expect that this project will contribute to an ongoing discussion on cooperation within groups of researchers using electronic means to communicate. Do virtual teams present a different dynamics from co-located teams? Does this difference relate to the field of research (social versus natural science)? Do these differences show in network structure? Do they show in social dynamics of exchange? And what are the implications of these mechanisms for the creation of cooperative tools and Web services? This project will compare different forms of research cooperation in four different fields in the course of three years, and develop an integrated theoretical framework on the basis of this empirical analysis.

d) Interventionist science and technology studies (with Roland Bal)

This project problematises the relation between interactions with clients and the pursuit of research in science and technology studies. Both the VKS and the iBMG (Beleid, Management en Gezondheidszorg) researchers within the EUR medical faculty are daily confronted with the tension, inherent in strategic research, between the academic goal of producing more interesting questions and the need to generate solutions to problems, often in the form of deliverables. Although the specific areas of expertise of the clients of the VKS and iBMG are different, the dynamics and origins of the tension between the interrelated but different goals of strategic research are essentially identical. The project builds upon earlier work by the iBMG group and the VKS, specifically the workshop *Practices of Assessment and Intervention in Action-Oriented Science and Technology Studies* organised by Casper-Bruun Jensen and Teun Zuiderent, in which VKS researchers Anne Beaulieu and Paul Wouters participated (Amsterdam, Spring 2005). The workshop laid out the key theoretical issues involved.

This research project will extend this to a framework for systematic comparative research by a series of 3 focus group meetings and 2 international workshops in the course of two years. In these focus groups and workshops, leading researchers from science and technology studies conducting strategic research in different domains (eg. policy analysis, database development, nanotechnology, ethics, health, law, games) will participate to map in intimate detail how they are dealing with the conflicts between different research goals and with the development of their research agenda. The results and the theoretical discussions will be published in the form of an edited book or a special issue of one of the key journals in STS. One of the key questions in this publication will be how non-academic actors can influence the research agendas in the social sciences and humanities. The research will be conducted by 2 postdoctoral researchers, 1 from iBMG and 1 from VKS.

e) Web-surveys for social and cultural research (with Kea Tijdens and Dick Houtman)

In the early 2000s, a number of studies have investigated the potential added value of web-surveys in comparison with paper-and-pencil, telephone and face-to-face interviewing,

concluding that the advantages of web-surveys go far beyond those of traditional methods of data-collection. Web-surveys are currently being developed as a major tool of data-collection in the social sciences, promising costs-effectiveness, quick data releases, large-scale data, and features such as highly flexible plug-ins.

Internet-programming techniques and knowledge about web-visitors' behavior challenge designers of web-surveys to profit from insight in usability and accessibility issues, advanced database-programming, trailing web-visitors, screen layout and design, and the use of sound, pictures, and animation. Additionally, web-surveys raise new debates about sampling methods and self-selection issues, related to bias due to Internet access, the sampling frames used, and dropout during completion.

Recently, a few attempts have been undertaken to combine the advantages of probability and volunteer web surveys, although the statistical theory behind mixed samples is not yet well developed. The aims of this three-year postdoctoral research project are twofold. First, it aims at furthering survey and data quality in web-surveys by means of a test program, using a large, continuous web-survey, which offers an unprecedented large and worldwide audience for testing. In 2001, this survey started in the Netherlands and currently it runs in 17 countries in four continents. Second, it aims to investigate how the research community responds to new technological developments, such as the Internet by monitoring by ethnographic means the process of the exploration of new web technologies and its usability testing by web-survey researchers. This is not limited to the socio-technical aspects of survey research. The project will also study how key research questions are being embodied, and thereby enabled and constrained, by new research methodologies such as Web surveys. What type of questions are being foregrounded in the context of Websurveys and which ones are backgrounded?

This project is of interest to social science research in many disciplines. Staff members of the department of sociology of EUR are currently involved in the web survey mentioned above, and researchers from other departments of EUR could profit from insights gathered in this experiment. To further this, the project will entail a series of focused interviews with researchers at the EUR. Workshops for discussing and disseminating knowledge of and hands-on experiences with web-surveys will be developed. This may develop into a social science collaboratory. The project will ensure long term archiving and accessibility of the data sets in cooperation with DANS.

f) The semantics of the EUR campus Web sphere (with Gert Goris)

The existence of an integrated university campus and a coherent university Web sphere offers itself an interesting research opportunity in the behaviour of academic scholars on the Web which has not yet been utilised. More insight in how researchers and scholars make use of the university Web and the services offered by the library may also inform the creation of new information services that offer a better fit between the needs of academics and the materials available on the Website. This project zooms in on the potential of semantic analysis of Web search and interaction behaviour of EUR researchers and of the possibilities to combine this with hyperlink analysis (Thelwall 2005). The EUR library has expertise in semantic analysis and in the creation of information services, the VKS researchers have developed Webometrics and hyperlink analysis expertise. The research project will focus on Web based forms of collaboration and methodological information services. This enables the EUR library to go beyond where libraries normally go and experiment with information services that are more finetuned to the needs of specific segments of the university population.

For the semantic analysis, cooperation with experts in information science will be developed, both at the EUR and at other universities (VU, CWI). This part is closely related to the Research in Semantic Scholarly Publishing project of the EUR Library which focuses on the development of a semantic scholarly publishing model. The purpose of this research project is to create an electronic publishing environment that is not static and linear, but dynamic and multidimensional *and* makes cognitive en semantic relation patterns visible. It is based on the hypothesis of the modularization of scientific publications. A publications can be split into smaller, cognitive independent units of information, called modules. These modules may be either linguistic or non-linguistic and in a digital environment they can be linked to each other in a versatile way resulting in a digital document with its own identity – authentic, findable and citable, but dynamic in its composition. Such a model give scientists the possibility to draw ‘semantic links’ between fragments of parts of each publication. For this purpose, hyperlink typologies will be developed via a classification of the types of relationships which can occur between these modules. The classification of modules and the relationships between them will result in a logical system of metadata. A hyperlink typology makes the internal link structure of a publication a carrier of information in itself and instigates new room for argumentation in which both the author and the reader can follow different lines of reasoning. With the help of external links, cross links can be made with other publications and parts of other publications. The hyperlink structure enables the history of a piece of research to be presented to the reader as one coherent research path. A scientific report is composed at different levels of aggregation. In this way a publication environment arises in which cognitive structures come to the surface by means of relations between scientific concepts like ideas, hypotheses, prove, [rebutals](#), [interpretations](#), [comments](#). The authenticity of the publication units is guaranteed by the origin of the parts being supplied simultaneously in the form of bibliographic data/metadata of the publication. Relation and en publication structures are strongly related to the cognitive and social structure of a discipline and will be developed in close cooperation with scientific usergroups.

Web site, teaching modules and seminar series

The VKS and the EUR library will jointly organise and host a EUR-VKS Website. This Website will present information about the activities of the VKS and invite researchers and students to participate in specific parts of these activities. Possibilities for thesis supervision and teaching will be presented. An important element of the Website will be a portal to research methods, tailored to the research profile of the EUR.

The VKS will develop contributions to a select set of existing courses of the EUR. Specific attention will be paid to the Honours programme. Focal points for teaching by VKS staff will be: social science research methods, online communication, information science, Webometrics and link analysis, Web archiving, simulation, and virtual ethnography.

The VKS will organise a campuswide seminar, entitled *Information in Practices*. This seminar will also be a meeting point between EUR researchers and non-academic audiences that have developed a relationship with the Erasmus university. This one-day seminar will take place every three months.

Organisation and Advisory Boards

We propose that the Erasmus VKS will be situated in the Faculty of Social Sciences, in the department of sociology, as an interdisciplinary unit that aims to develop strong collaborative links with other EUR faculties, especially in the social sciences and humanities (economics, bedrijfskunde, law, history, arts). The part-time chair in the area of the sociology of knowledge and e-research will be part of the department of sociology.

We also propose that the KNAW invites prof. dr. Bert van der Knaap to the Scientific Advisory Board of the VKS. The Erasmus VKS will not have its own scientific advisory board. It does seem useful, however, to form a Societal Advisory Board with representatives from stakeholders in and around Rotterdam.

The Erasmus VKS will be led by the VKS programme leader, assisted by a managing director based in Rotterdam. The programme leader is responsible for the scientific quality and course of the Erasmus VKS. The managing director is responsible for the quality of the organisation and its embedding in the EUR. The Erasmus VKS will be part of the EUR organisation on the basis of the covenant between the KNAW and the EUR.

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