Enhancing the co-creation of service innovations by a web-based development environment

Pasi Pohjola, Juha Koivisto & Niina Pitkänen
Practices and Technologies Assessment Unit / Innovillage
National Institute for Health and Welfare
Finland

Abstract: This paper investigates how the web-based development environment of the national innovation community, Innovillage, in the social and health field in Finland enables and enhances open participation and collaboration in the co-creation processes of service innovations. It begins by defining the basic concepts and content of the innovation model of Innovillage. Then, it describes the structure of the web-based development environment. The final part of the paper discusses how the environment is utilized in developing a new kind of service model in social care. The model investigated is about a novel kind of social work practice where the clients and professionals collaborate in solving the challenges and problems. This kind of collaboration aims at reforming the traditional ways of providing and developing social and health care services.

Key words: Service innovations, co-creation, collaboration, web-based development environment

Introduction

Innovation has become the organizing concept that drives the research, development and policy agendas. Policies are elaborated on wishful thinking that innovations reform the whole public sector and are the key factor in resolving the economic crisis of EU. However, the fuzzy discussion about innovations has vitiated the whole concept of innovation. People typically confuse innovations with ideas or inventions. Nearly every research and development project seems to be innovative and to produce innovations. Innovations are talked about as if they were objects which could be transferred from site to site as such. Once an innovation has been made, it can be implemented everywhere.

Another thing that messes up the concept of innovation is the discourse concerning the different types of innovations or the classifications of innovations. There seems to be almost as many classifications of innovations as there are definers of them. Radical innovations have entered the policies as an opposition to incremental innovations. These kinds of policy demands are rather driven by ideological than practical reasons. In scientific literature on innovations, radical innovations are usually such as the development of printing technology and in many cases such optimistic expectations of innovation policies are merely improbable or impossible. We argue that the different classifications of innovations are not that important when thinking about the real life innovation processes. The classifications can even be harmful when emphasizing too much them in the process, especially when they become part of policies that aim to produce certain kinds of innovations, such as radical innovations instead of incremental ones.

This paper defines an innovation model which is based on a practice-based approach on innovation. It has been developed in the Innovillage project (2009-2013). The project as a whole has developed a national innovation community in the social and health field in Finland. The innovation model shifts the focus of innovation discourse from the concept of innovation in the socio-material constituents of the objects of development. When designing a solution, it is vital to notice every element that has to be mobilized to translate it into local practice, to enact it. Being an innovation does not then depend on the thing that it can be counted as an incremental or a radical innovation. What counts is that the ideas, inventions and models are successfully translated into practice so that they meet or solve the challenges or problems they were developed for.

The model shifts the focus also from the user-driven or user-centered innovation process on the co-creation and co-development processes of the shared objects of development. Then all the relevant stakeholders or actors with respect to the solution under development are equally allowed to participate in the innovation process, and if possible, from the very beginning of the process. They should participate in ensuring that the development and evaluation of a solution is based on the needs and views of the relevant actors. Because a local practice is constituted and enacted by various actors, the representatives of these actor groups should also be co-designing and co-developing it.

This paper investigates how Innovillage's web-based development environment enables and enhances open participation and collaboration in the co-creation processes of service innovations. It begins by defining the basic concepts and content of the innovation model of Innovillage. Then, it describes the structure and content of the web-based development environment. The final part of the

paper discusses how the environment is utilized in developing a new kind of service model in social care. The model investigated is about a novel kind of social work practice where the clients and professionals collaborate in solving the challenges and problems. This kind of collaboration aims at reforming the traditional ways of providing and developing social and health care services.

Focus on practices

Our daily life consists of different practices, routines and habits that we live through without paying much attention to them. In the morning, we repeat certain routines; we wash and get dressed, make coffee, read the newspaper and drive or travel to the workplace much the same way. When arriving to work, we perform various daily working practices like checking the email first thing in the morning and have weekly meetings. Usually only in the situations when the established practices and routines do not work anymore, we become aware of them and try to find other or new solutions that could work and solve the problems we have encountered (Miettinen, Paavola & Pohjola 2012, 351).

In an ordinary way, practices can be defined as stable ways of doing things in the same way. They are usually developed and exist for some purpose, i.e., to achieve certain goals. In the course of our daily activities, we enact and re-enact the practices to achieve the goals. The existence and continuity of a practice is dependent on the fact that we are acting in the same way in the same kind of situation. However, every action or activity is not a practice. They are characterized particularly by stability, mutuality and repeatability, but of cause practices also change or cease to exist for different reasons. There is always the possibility that things are performed differently than usually. When people change the ways to act in order to achieve a certain goal, a practice ceases to "exist".

When studying the services within the social and health care sector, we can notice that the social and health services and the ways they are organized, produced and managed are all practices that are performed daily in the same way. In general terms, an appointment with a general practitioner follows the same structure and phases from patient to patient. The practice of a social worker consists of particular repeated tasks she conducts during the meeting with her clients. A nurse working in the home health care records the information concerning the patient in every home visit much the same way. In the services, these different practices are linked to each other and structure the whole of the services. In many cases, some practices can be prerequisites for others and usually they are in some way dependent on each other.

It can be said that services and organizations are constituted by practices, and the implementation of the new ways of providing services is a process of constructing new practices into the daily routines. There is no social structure or organization outside the practices; the practices and activities rather constitute the structures and organizations as continuous effects. They are constantly made and re-made. By taking practices as the focus of investigation and as the unit of analysis, the focus is on the continuous activities that constitute services, structures and organizations.

Practices as socio-material systems

In social theory a shift towards the practice-based approach has taken place during the last two decades (Schatzki 2002; Nicolini, Gherardi & Yanow 2003). Practice has become the unit of analysis of human and social action. However, the approaches to studying practice do not form a solid methodological and theoretical foundation for practice research. Rather than being a unified movement, the approaches form an overlapping and partially contradictory collection of theoretical interests with various methodological backgrounds (see Engeström 1995; Law & Mol 2005; Pickering 1995; Hakkarainen 2009; Hakkarainen et al. 2009; van Egmond & Bal 2011; Marres 2012; Miettinen et al. 2009).

Science and technology studies and especially the relational ontology emphasized by actor-network theory studies the socio-materiality of practices (Latour 2005; Callon 1991; 2002; Law 1992, 1994, 2004). According to relational ontology, human activity and practices are not studied through dualisms, such as practice versus organization, but as socio-material systems that are constituted by humans, technical artefacts, money, architecture, values, goals, norms, etc. (the list of the constitutive elements is open and infinite).

A practice is typically developed for some purpose, e.g. to support the elderly to cope with living at home. In addition, other goals for a practice are defined in the different sites where it is enacted, e.g. to save in the expenses of hospitalization when the elderly are able to cope with living at home for longer. These goals guide and shape the way the practice is developed and the way it is enacted and maintained. The practice is constituted by human actors (such as, clients, social workers, practitioners, managers), by activities and interactions, and by resources which the human actors mobilize and enact in their purposeful activities (such as, tools, principles, technical artefacts, laws, money).

Practices are systems of interaction where each part of the system is existent and becomes defined by the relations and activities it has with the other parts of the system. It also means that a change in one part of the system generates change in the whole system. Nothing exists individually in itself as fixed in the system. Every entity is rather constituted in the system. They are continuous effects. The practices are linked to each other and together they constitute wider systems where the workability and existence of a practice is dependent on the other practices.

The socio-materiality of practices can be illustrated with an example of doctor's appointment in a health center. First, the practice is constituted by human actors, such as a general practitioner, a receptionist, a nurse, and a patient. Every actor has his/her own tasks in the practice. A patient books an appointment with the doctor in the internet or by calling the appointment number. The receptionist maintains the booking system and handles the registration of the patients. The patients are required to arrive at the appointment at a fixed time. In the appointment, the general practitioner conducts the diagnosis by interviewing the patient. In doing the diagnosis, the general practitioner can mobilize certain tools and directs the patient to take laboratory tests which are conducted by the nurses. Second, as we have noticed, the practice is constituted by different artefacts which the humans mobilize in their activities, such as the telephone, information system, physical architecture

and tools. Third, the practice is constituted by the manifold interactions of the humans that are mediated by the artefacts. The attributes of the different elements are constituted in the interactions; they are not given in the nature of things. A citizen becomes a patient when s/he enters into the interaction with the health care personnel. A technical artefact becomes an instrument when a human mobilizes and enacts it in his/her activity. The practice is the totality of the repeated actions and activity of different human actors and the instruments and tools they mobilize in their action.

Relationality of practices

Practices are something that can be repeated in the same way again and again in a site, and the locality of practices means that they are always in some sense relational to the site where they are enacted. The example of doctor's appointment discussed above should also be understood as relational to the site it is enacted. Although a specific practice of doctor's appointment might have strong similarity to appointments in different health centers, it is always relational to the site. The physical architecture partly constitutes the way it is structured. Also issues such as available personnel, tools and instruments as well as the demographic of patients constitute the activities conducted in the practice. Therefore it is argued that a practice cannot be transferred to another site as a simple technical artefact; it is always tailored in different sites on the basis of various scripts, such as texts, flow charts, and peer experiences, which define the actors of the practice, their roles and tasks, the resources to be mobilized, etc. (see Akrich 1992). The idea in adopting and adapting a practice is to build a strong, durable and workable socio-material system of action.

This does not mean that each practice is a unique and individual practice. Rather, the same solution can be translated into practice in different sites and the solution typically achieves different variants and modifications, depending on the local conditions, for example, goals, resources, knowledge, abilities, client groups, and the other practices which are preconditions for the new practice. The more complex the adopted solution is, the more probable it is that the practice will have differences and variations in different sites. In simple terms, this is what it means that the practices are relational.

When translating the same idea or model into practice in different sites, for example, a preventative model of youth's excessive alcohol use, the goal is usually to translate the core idea into every school: the same basic activities, information packages, process phases, etc. Regardless of the core idea, the practices in the different schools will have their own characteristics. This happens because the schools, their resources, their other practices, and the people are different. A Canadian study (Edmondson et al. 2001) analyzed the dispensary outpatient clinics in large university hospitals, where the same method of thoracoscopic cardiac surgery was adopted. In principle the measures and tools of the method were the same regardless of the site. However, the study observed that the practices, the enactments of the method, varied between the hospitals. Nearly half of the clinics experienced notable difficulties in the implementation of the method. A key difference between the successful and unsuccessful clinics was in relation to how the practice was succeeded in linking to the other practices of the clinic and how the resources and measures needed were succeeded in mobilizing and enacting.

The relationality of practices has certain implications for how we understand or should understand practices, methods and technologies in social care and health care. In the best practices policies, the aim is typically to find and implement universally effective and best practices, methods and technologies. According to the relational approach, instead, a practice does not have such inner attributes as good, effective, or workable. Rather, these attributes are relational. This means that a practice can be effective or good only when embedded and implemented in a wider system where the goals to be achieved by the practice are defined. Instead of searching for the ultimately best practices, we need to investigate the applicability and workability of a practice in relation to the site. We have to investigate, what kind of human actors, activities and interactions as well as resources have to be mobilized and enacted so that the goals defined can be achieved. The goals can be, for example, the health of a patient, the work welfare of practitioners, or the economy of an organization. Only in relation to these goals and the site, a practice can be effective or good.

Pickering (1995, 21ff.) has argued that a central and workable way of communicating and distributing cultural practices, such as the ways of early prevention of mental problems in maternity clinics, is through models and exemplars. This is one of the key suppositions of Innovillage innovation model. The solutions produced in the co-creation processes can be generalized into enactment models which contain the core idea and elements and the process of the practice without any local information. This kind of model can then be adopted and adapted by other developers which produce new exemplars of the model.

Innovations as successful practices

This practice-based approach gives us the basis for defining what innovation is and how innovations should be understood. In this framework, innovation is defined as a new idea, invention or model that is successfully translated into practice and it solves or meets the problems or challenges it was developed for. This means that an idea, a model or an invention is not an innovation as such. To be counted as an innovation, it has to be translated successfully into practice, it has to have something new compared with the earlier practice, and it has to meet or solve the challenges or problems it was developed for. (See also Pedersen & Johansen 2012; Mulgan et al. 2007; Caulier-Grice 2012; Akrich et al. 2002a; 2002b.)

From the point of view of the innovation process, our definition of innovation highlights that the creativity, innovative activities and the process itself does not cease when an idea, a model or an invention has been developed. After the idea or model has been developed, it is essential to create the conditions for translating it into practice. Then the socio-materiality of a practice is being built. All the elements to enact the practice have to be taken into account; to mobilize and enact human actors, tasks and interactions, resources, rules and principles, laws and statutes. Innovation processes only begin from the creation of an idea, model or invention. The prerequisite for innovation is that a model or invention is successfully and purposefully translated into practice.

Involvement and co-development

Innovillage's innovation model emphasizes that all the relevant actors and stakeholders with respect to the solution under development should participate in the innovation process, and if possible, from the very beginning of the process. They should participate in ensuring that the development and evaluation of a solution is based on the needs and views of the relevant actors. Because a local practice is constituted and enacted by various actors, the representatives of these actor groups should also be co-designing and co-developing it.

This partially practical perspective to innovations proposes a shift also in the theoretical understanding about innovation processes. Instead of distinguishing the creation and implementation of practices as two separate processes, this framework emphasizes the early involvement of various actors in the co-creation processes. Then the relevant actors are simultaneously creating and enacting the practice. This means that then the end-users and creators are partly the same actors. Therefore the involvement of various actors already in the early phases of the creation of a new practice is vital.

The emphasis on the early involvement of all the relevant actors extends the traditional idea how new innovations become implemented and become existent. Until recently, innovation studies and design theories (especially in technological discourse) have investigated the role of users in the innovation processes as an individual area of study. Users have been those who either accept or reject the new practices or technologies, or they are merely utilized in the design and development as a source of information in terms of client satisfaction questionnaires or user testing. It has been proposed that design and innovation should rather be understood as practical activity and reasoning where both users (clients, practitioners, managers) and developers participate in the process. (Pohjola 2009, 120ff; Lychnell 2011)

This idea of involvement of all the relevant actors in the innovation processes comes with practical implications. It is a well-known fact that in addition to the result of an innovation process (such as an actual practice in social care), a novel practice can generate various and probably uncontrollable effects relating to different sites, of which some can be unwanted or even harmful (see Goldkuhl 2005). By the inclusion of relevant actors, the possible effects, even unwanted, become more controllable during the different phases of the innovation process. Innovation should be seen as a process of making a hypothesis or a theory of some means to achieve a certain goal (how the home care of the elderly could be organized effectively, cost-efficiently and still take into account the individual needs of the people in the home care) (Pohjola 2009, 128-134). By having multiple perspectives on the creation of the hypothesis, the reasoning to the means to achieve the goal becomes more efficient and controllable.

This kind of involvement and co-production of the shared objects of development should then be seen as something more than just a participation of different people and stakeholders. It is not just interaction and dialogue between different participants. Rather, it should be stronger commitment and co-work on a shared object of activity. Therefore the development and co-creation process of a practice can be understood as a collaborative learning process. In (trialogical) collaborative learning (Paavola & Hakkarainen 2009; Pohjola et al. 2011), the process has a shared object of activity and

shared goals and aims to which the members of the collaborative are committed. Ideally in such processes, inter-professional co-creation emerges and the expertise of various actors contributes to the development of the shared object.

Three iterative sections

According to the Innovillage innovation model an innovation process is open, transparent, need-driven and collaborative process that adopts and adapts models and solutions already developed by someone else or develops totally new solutions and models. Innovillage innovation model has been developed primarily for the innovation activities of public social and health sectors, but it can be applied in various other fields and with any type of innovation activity. The model consists of three iterative and interactive sections of innovation process: Stimulate, Incubate and Enact (Figure 1) (see also Innovation unit Disciplined innovation model. http://www.innovationunit.org/). These sections should be performed to achieve successful solutions and sustainable change in a local site, but not strictly in the order they are presented in the model. The sections are not phases that should be performed in a linear order, they rather include different development tasks that are performed simultaneously and interactively; a change in one thing may generate change in another thing. The co-development and co-creation is focusing all the time on the shared object of development, that is, on the solution under development. In addition, the innovation model includes a task to generalize the local solution into a general enactment model which can be utilized by any other innovation activity.
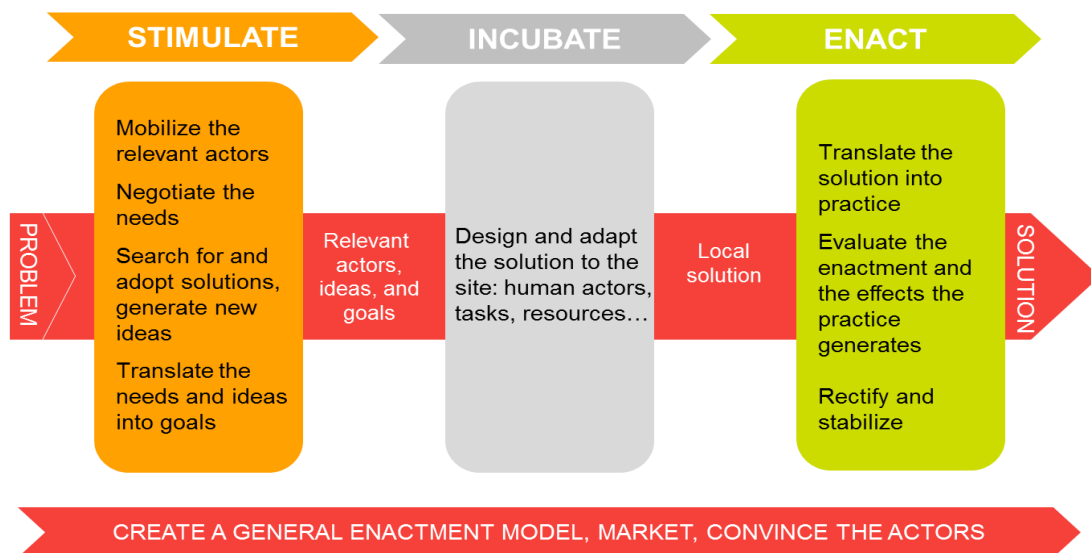

Figure 1. Innovillage's systemic innovation model

Stimulate

A starting-point for innovation activities is typically some kind of problem, challenge or state of affairs. The innovation activity starts with identifying the different stakeholders or actors who are somehow relevant in relation to the challenge or problem, that is, they may have some "unsure" needs or interests concerning the state of affairs or challenge. When identifying the stakeholders it is useful at the same time to start recruiting and enrolling the development community by involving the different stakeholders in the innovation activity.

It is useful to think about the involvement and engagement with the help of four aspects: client/citizen aspect, practitioner aspect, organizational aspect, and policy community aspect. The clients/citizens are the ones who "use" the services or products. The practitioners are the ones (doctors, social workers…) who are practicing the service. The organizational actors are for example the managers of the organization(s) (private or public) providing the service. The policy community aspect refers for example to the governance of municipalities and to the ministries. These different actor groups may have some interest or need in the relation to the challenge that is focused on. These actor groups are the representatives of the actors who will be the actors of the socio-material practice under development.

In innovation activity, it is question, above all, about negotiating and reconciling the needs of the different stakeholders and actors. This means the actors involved, negotiate and aim at designing a shared solution which meets the different needs. Throughout this process, the interests and needs are moulded and remoulded. The needs should be seen as continuous effects generated and regenerated in the interactions, rather than something that the actors a priori have. The needs of the different stakeholders are collaboratively translated into development goals. They define what kind of solution should be the outcome of the innovation process.

Incubate

After the needs have been negotiated, the ideas concerning the solution have emerged, and the goals have been defined, the more systematic innovation activity begins. At this point, the development community should, at the latest, have a shared object of development which is being designed as a solution to fit with the site. Only when the community has a shared object of development, it is possible to co-design the socio-material constituents of the solution in the way that it will work in the site and it meets the challenges or problems it is developed for. In designing the socio-material constituents the matrix for designing the socio-materiality of a practice is useful to utilize (Table 1). In the matrix it is possible to co-design the socio-materiality of a solution in a site, i.e., the local elements of the solution including actors, tasks and resources. The matrix consists of the four aspects presented above and of six topics. The topics are human actors, tasks and division of work, knowledge, skills and tools, rules and principles, laws and statutes, and expenses. The design works as a script of the local solution; it defines the socio-material elements of the solution. On the basis of the script, the solution can be translated into a local practice.

Table 1. A matrix for designing the socio-materiality of a practice

	Client aspect	Practitioner aspect	Organizational aspect	Policy community aspect
Human actors				
Tasks and divison of work				
Knowledge, skills and tools				
Rules and principles				
Laws and statutes				
Expenses				

Enact

When testing an idea or a more designed solution in a site, the script is translated into practice. Then the expected and unexpected change the practice generates is evaluated. Through evaluating the change, it is studied whether the practice meets the challenges or problems it was developed for. The evaluation also includes the evaluation of the enactment of the solution. The fundamental idea of the evaluation is to answer whether the practice developed in a site answers the needs it was designed and intended to answer.

The whole evaluation can be performed in the before, during and after –design. In this design the thing to be evaluated is followed and evaluated before the enactment of the practice, during the enactment and after the enactment. Through this design it is possible to locate the change generated (before – after) and the constituents that generated the change (during). On the basis of the evaluation improvements can be made in the solution and the decision concerning the stabilization of it will be made.

At its best, the evaluation is performed in the contexts of different aspects (client, practitioner, organizational, policy community) in real time and systematically. However, this is not always possible and necessary. Sometimes it is enough to collect the knowledge after the enactment of the practice and only within one aspect. The evaluation is useful to perform by building it into the development process, as a natural part of the enactment of the practice. Then the evaluation knowledge is collected when enacting the practice – not as a separate process. However, the evaluation design depends on a great deal on what kind of practice you are evaluating and what kinds of resources (f. ex. people, time and money) you are able to mobilize in the evaluation.

On the basis of the entire study material collected before, during and after the enactment, evaluation and conclusions will be made of the way the practice under evaluation has generated the changes and what kinds of other things have possibly generated the changes. In addition, an evaluation will be made about the success and workability of the enactment. On the basis of the evaluations, the improvements that are needed can be made in the practice and the final decision concerning the stabilization of the practice is then made.

Enactment models

The design made in the matrix for designing the socio-materiality of a practice also helps when a general enactment model of the solution is created. The generalized model is not a model of the local solution developed, it rather defines the core socio-material elements of the solution which should be enacted in every site where the solution is adopted and adapted. It works as a script and a theory of change which is tested when adopting the solution in new sites. This kind of general model can be created during the innovation process and it is typically elaborated after the local enactments of the solution in different sites. The general models work as conceptual artifacts through which the practice developed can be communicated, explicated and marketed.

Web-based development environment

The Innovillage web-based collaborative development environment is based on the innovation model defined above. It is a practical tool where practices are collaboratively developed and generalized into enactment models and where information about existing practices and models can be searched (https://www.innokyla.fi/kehittaminen). It has been created primarily for the needs of practice development in social care and health care, but it can be used also in the other fields of development.

The core of the development environment is a Virtual Workspace for Practices where practices and their local enactments are collaboratively developed, designed and evaluated. In the Workspace, the developers are able to invite the relevant actors to participate in the virtual development. The Workspace can be utilized for creating totally new local practices and for creating a new local practice out of the already existing Enactment Models in the environment.

The Workspace consists of the basic information concerning the practice under development and of three sections that match with the three sections of the systemic innovation model of Innovillage: (1) needs and goals, (2) a matrix for designing the socio-materiality of a practice; and (3) the enactment and evaluation of a practice. To stimulate is to negotiate the varying needs and to translate them into the goals of development. To incubate is to design the local practice in the matrix for designing the socio-materiality of the practice. To enact is to plan the enactment and its evaluation and to conduct the evaluation by utilizing before-during-after – design.

In the development environment, the local practices developed in the Virtual Workspace can be also generalized into Enactment Models. They are general models that contain the core idea, elements

and process of the practice without any local information. The Enactment Models in the development environment work as the models for communicating the core idea of a practice and each enactment of the model in the Virtual Workspace serves as an exemplar of the ways it has been enacted (Figure 2). The development environment was opened in the November 2012. It contains currently over 650 practices and Enactment Models from varying disciplines.
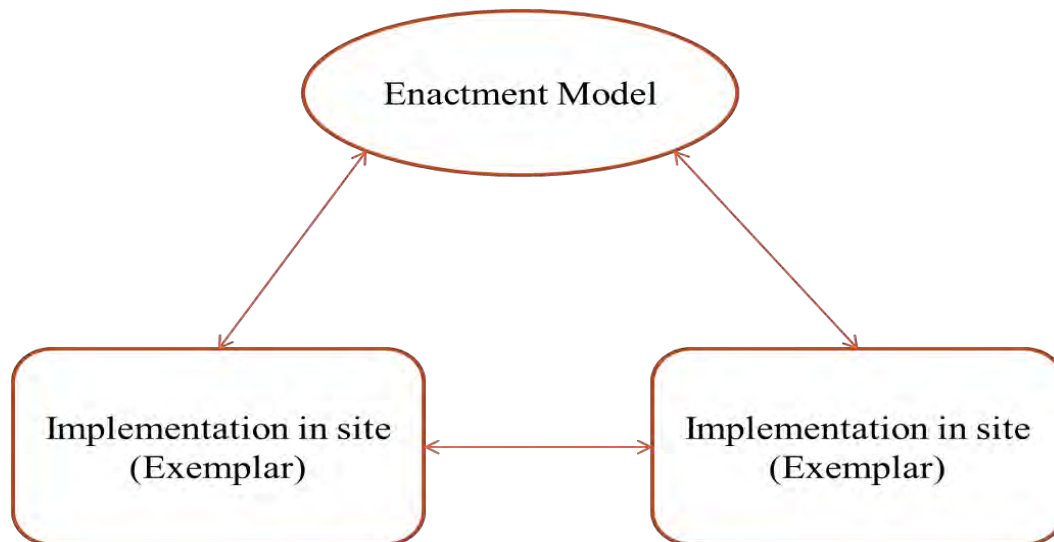

Figure 2. The conceptual structure of the web-based collaborative development environment

Innovillage's innovation model and Virtual Workspace in use: Co-research as a social work method

As an example of how the web-based development environment is being utilized, an enactment model of *co-research as a social work method* and its various local implementations is discussed. The Enactment Model of the practice has been developed in a project, where a new kind of co-research practice within social work for young adults was developed in the social and health services of the city of Helsinki. From the experiences and results gained from the testing and evaluation of the practice, an enactment model of the practice was generalized and it was entered into the development environment of Innovillage. The aim was to create a model of a new type of social work that could be adopted and adapted in various other social service units and in different areas of social work.

The model is a radically new type of collaborative social service, where the clients, practitioners and the other possible actors co-design, co-develop and co-enact the services. The core idea in the model is that the clients and professionals enter into group dialogue to share viewpoints of social services and social work and of how they should be developed. The kind of client participation was

created on the basis of the acknowledged need to develop new practices that involve the clients in the development of services. By this it was intended to guarantee that the services meet the needs of clients. The general way to collect feedback in social work had typically been questionnaires. The clients were asked to answer a client satisfaction questionnaire, where the participation of clients in the development of services is more passive than active. What makes the new co-research model more participatory is that the clients and the social workers together discuss and then investigate the outcomes of the dialogues and client experiences. During the course of piloting and testing the model, it became evident that the method worked not only as a way of developing more client oriented services but also as an effective and empowering social work method.

After the general model was developed, a set of new implementations of the model emerged in various other social work offices (sites). Where the enactment model presents the general idea of the practice, these local enactments of the model include the local arrangement in the Workspace. In these cases, the enactments have been co-developed in the Virtual Workspace and every site of enactment forms a Workspace of its own. Currently, the model has been applied in various areas of social work and child protection services, such as working with youth, parents and families. There are six Workspaces under the model at the moment. To specify the local arrangements, a local solution of the model in the Virtual Workspace consist of the names and contact information of the developers, the name of the unit adapting the model and the subject areas of the social work.

The Virtual Workspace is divided into four different sections and these sections are divided into individual sheets in the tool. The first sheet includes the basic information. It outlines the solution that is under development. The second sheet consists of the needs and goals of the development, where the local development activity specifies the local needs and goals for developing and implementing the model. They list the needs of the different stakeholders and the common goals of the development and implementation activity. In the example, the client needs are produced by listening to and negotiating the experiences of the clients concerning social services and social work. This kind of user involvement will enable the users to participate in the development of the local solution of the practice.

The third sheet in the Virtual Workspace consists of the matrix for designing the socio-materiality of a practice. The sheet includes all the elements described in the table 1. By this matrix, the practice can be designed and created from different aspects: what kind of actors are involved in the practice, what kinds of skills and knowledge they must have, what kind of rules, principles, laws or statutes are regulating the practice and what kind of expenses there are in the practice. For example, in a site of the co-research with youth it is proposed that youth participating in this kind of service must have at least some experience about child protection services, they must join the action voluntarily, and the permission to run this kind of service must be given by the managers of the social service organization.

In the fourth sheet of the Virtual Workspace the script of the solution developed is documented so that it can easily be translated into practice. For instance the script of the co-research with youth is documented so that anyone can study what actually happens, how the group of these specific service users is created, who joins the action and how and when the meetings are organized. This

accurate information is valuable when other developers consider adopting the same model in their own environment.

In the implementations of the co-research model it has become evident how important it is that all the relevant actors participate in the development process from the very beginning. When all the relevant actors, such as clients, professionals, the managers of the organization as well as policy-makers take part in the different phases of the development process, it is ensured that various needs and ambitions are recognized and taken into account. It has been shown that the early involvement of the clients who participate in the service is relevant to the development and planning of the service. Engagement of managers is required for the permission to implement the service, but also for providing possible extra funding required for enacting the service. When all the relevant actors participate in the entire development process, it is easier to adapt and stabilize the practice into everyday work.

A central point in the Virtual Workspace is the place for the evaluation of the practices. The evaluation of the practice is designed in the fourth sheet of the Virtual Workspace. It contains information on how the data is gathered before, during and after the enactment of the practice and with what methods, who participate in the evaluation and who will analyze and process the data. It is relevant that the developers document their findings and conclusions regarding to the practice developed and consider whether it meets the challenges and achieves the goals it was developed for. This documented evaluation data helps the other developers to study different local development processes, their successes and failures and learn from them. The information concerning the exemplars is crucial for those who want to adapt the model in their own site.

The local developers of co-research as a social work method have found the Virtual Workspace easy and understandable to use. It has been clear how to sign in to the service, record their own information and publish it as well as to study the materials of the other sites. Developers have found the web-based development environment a clever way of recording their own work in real time and to share experiences and expertise among other developers and professionals. In the implementations of the co-research method it has become evident that it is necessary to have one or two persons responsible for recording and updating the findings into the Virtual Workspace. This is an easy way to guarantee that the job gets done and every Workspace consists of relevant and current information. It has also been shown that it is important that all members taking part into the development process allot enough time for the co-development process, such as different kind of meetings, brainstorming and also commenting others work in the Virtual Workspace.

One interesting finding while following the use of Virtual Workspace is that the developers have often found it somehow embarrassing to record and publish unfinished and therefore incomplete text. They seem to think that all the information recorded and shown to others should be completed and qualified. There has been a need to convince them that incompleteness is a natural part of developing process and by publishing also draft texts and outlines of their local solutions other developers can study how the development process is evolving. On the other hand, the experiences from this case have shown that in these kinds of practices, the user involvement becomes structured and more manageable. Co-work between the clients and the professionals can be focused on the

certain parts of the practice, e.g. client needs or rules and principles relating to clients participating in the process.

One example of the co-development in these cases relates to the construction of the socio-materiality of a practice. In one of the meetings, the tool was opened and the discussion between the clients and the professionals focused on the client and professional aspects of the practice. They collaboratively created the contents by considering f. ex. what kinds of tasks the clients and the practitioners need to conduct in the practice. They also considered what kinds of rules and principles they need to follow in order the practice to work. From the clients' perspective, they concluded that participation in the practice should be free willing and in the course of dialogue, where personal issues are discussed, the participants should respect each other's descriptions of experiences.

Discussion

Innovation studies have a long history with a variety of topics and interests. One of the recent interests in innovation studies has been open innovation and democratic innovation, where to the participation and role of various parties outside the companies and traditional groups of developers has been given a stronger emphasis. These new approaches are continuity to the user-driven and user-centered perspectives to development, where the involvement of users has been strongly emphasized. The current studies on innovation have directed their focus from the production processes to other kinds of social phenomena relating to co-working, involvement and co-developing. Innovations are not merely understood as linear production processes but as co-produced iterative processes involving a variety of stakeholders.

In order to capture and conceptualize this kind of innovative development work and practices for producing innovations, Innovillage provides an innovation model with both theoretical and practical implications. Resting upon the ideas of relational ontology and socio-material networks, Innovillage's innovation model provides conceptual tools for capturing the networked and interactive activities of actors and resources, relationally in site. Investigating and understanding innovations as practices, the model provides criteria for distinguishing innovations from ideas, models and inventions. Seeing them as successful practices that solve or meet the problems they were developed for, the innovation model provides also practical orientation for actual development work.

To support the development activities, the core ideas of the innovation model have been developed into a practical collaborative web-based tool, i.e., the Virtual Workspace. Its basic structure follows the three iterative stages of the model: to define the needs and goals of the development (Stimulate), to define the core parts of the solution under development (Incubate), and to enact and evaluate the solution/practice (Enact). By enabling the creation of general models from the local solutions, the tool supports the transferability of practices through models and exemplars.

As an openly available environment which enables collaborative development, Innovillage aims at enhancing co-development and co-creation of innovations. As a tool, though, Innovillage web

environment only provides affordances that make certain actions and activity possible (Norman 1990). In order to promote real life co-development, the processes need to utilize these affordances and create ways of working that enhance collaboration. It requires issues such as the early involvement of relevant actors, negotiation of needs and commitment to shared goals. These issues behind successful collaboration in development are highlighted in the examples of co-research as a social work method.

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