



UPPSALA
UNIVERSITET

Performing the Vision Seminar Process

Niklas Hardenborg

Iordanis Kavathatzopoulos

Bengt Sandblad

Technical report 2007-031
November 2007
ISSN 1404-3203

Department of Information Technology
Uppsala University
Box 337, SE-751 05 Uppsala, Sweden

Abstract

The Vision Seminar Process is a process for developing an efficient, sustainable, IT- supported future work and a tool for proving a solid basis for the development of IT systems. The process provides a framework where practitioners and designers cooperate in the design of both sustainable work and usable IT systems. A practical approach is provided to facilitate for practitioners' reflective in-depth analysis of their work practices as well as to question and discuss their entire work situation and organization.

This report gives a practical and basic description of the process procedure based on experiences from several projects where the process has been carried out in different contexts and organizations.

Content

1.	Introduction	6
1.1	Definitions.....	6
2.	Foundations for the Vision Seminar Process.....	7
2.1	Perspectives.....	7
2.2	Main Characteristics for the Seminar Work.....	8
2.3	Vision of Future Work	8
2.4	Results From the Vision Seminars	9
2.5	Prerequisites for a Successful Process.....	10
3.	Planning the VSP.....	11
3.1	Prepare	12
3.1.1	Strive for Empowered Participation	12
3.1.2	Find Strategically Conditions.....	12
3.2	Assembling the Work Group.....	13
3.2.1	Roles in the Group	14
3.2.2	Number of Participants.....	14
3.2.3	More Advises	14
3.3	Seminar Planning	15
3.3.1	Seminars' Number and Length.....	15
3.3.2	Time Between Seminars.....	15
3.3.3	Define a Time Horizon.....	15
3.3.4	Seminar Contents and Activities	16
4.	Realization of the VSP	18
4.1	Accomplish the Vision Seminars	18
4.1.1	Taking Minutes	18
4.1.2	Reflection Between Seminar Meetings	19
4.1.3	An Iterative Process	19
4.1.4	Assignments	20
4.1.5	Advises.....	21
4.1.6	Involving Colleagues.....	22
4.2	Creating additional input.....	22
4.2.1	Field Studies.....	23
4.2.2	Field Trip.....	23
4.2.3	Inviting Guests	23
4.2.4	Gather Essential Tools	23
4.3	Anchor the Results in the Organization.....	24
5.	Documentation	25
5.1	Future Conditions and Prerequisites.....	25
5.2	Aspects on Future Work.....	26
5.3	Scenarios	29
5.3.1	Content.....	30
5.3.2	How to Write.....	31
5.3.3	Advices.....	32
5.4	Work Tasks and Activities	33
6.	Continuation	35
7.	References	37

7.1	Reading Suggestions	37
8.	Appendix A: Exercises	38
8.1	Exercise: Check-in	38
8.1.1	Questions for the Work Group	38
8.1.2	Procedure	38
8.1.3	Purpose.....	38
8.2	Exercise: Expectations and Apprehensions.....	39
8.2.1	Questions for the Work Group	39
8.2.2	Procedure	39
8.2.3	Purpose.....	39
8.3	Exercise: Good and Bad Today.....	40
8.3.1	Questions for the Work Group	40
8.3.2	Procedure	40
8.3.3	Purpose.....	40
8.4	Exercise: Looking into the Future - Dreams and Threats.....	41
8.4.1	Questions for the Work Group	41
8.4.2	Procedure	41
8.4.3	Purpose.....	41
8.5	Exercise: Broaden the Technical Perspective.....	41
8.5.1	Questions for the Work Group	42
8.5.2	Procedure	42
8.5.3	Purpose.....	42
8.6	Exercise: A Day at Work.....	42
8.6.1	Questions for the Work Group	42
8.6.2	Procedure	43
8.6.3	Purpose.....	43
8.7	Exercise: My Own Company	43
8.7.1	Questions for the Work Group	43
8.7.2	Procedure	44
8.7.3	Purpose.....	44
8.8	Exercise: Communication and Collaboration.....	44
8.8.1	Questions for the Work Group	44
8.8.2	Procedure	44
8.8.3	Purpose.....	44
8.9	Exercise: Information Flow Analyze.....	45
8.9.1	Questions for the Work Group	45
8.9.2	Procedure	45
8.9.3	Purpose.....	45
8.10	Exercise: A day at Work 20xx	46
8.10.1	Questions for the Work Group	46
8.10.2	Procedure	46
8.10.3	Purpose.....	46
8.11	Exercise: Check-out	46
8.11.1	Questions for the Work Group	46
8.11.2	Procedure	46
8.11.3	Purpose.....	47

1. Introduction

This report gives a straight forward practical description of the participatory process we call the Vision Seminar Process. It is important to point out that we find it not possible to, like in a cook book, provide an exact method for how to perform a Vision Seminar Process. We here share our experiences from several applications about how to carry out the process. That is done in order to provide knowledge for and facilitate for future applications of the process.

Initial initiatives to the process were made in the 1980's in the DAISY project concerning the work organization for employees in Swedish health care service. The process has during the years been applied in several projects such as with the Swedish railway organization (FTTS), in Municipal elder care (VIHO and VisIT) and at The Swedish National Board of Student Aid (CSN).

Describing a process like this is not like writing a cook book and expect that each application will be carried out accordingly. Instead we are very aware of that each application is affected by prevailing prerequisites, limitation and possibilities, which provides for a unique performance of the process in each case. Hence, this report aims at giving a basic description of how to carry out the process together with shared experiences and advices based on lessons learned – all in order to provide the reader with as much relevant information about the Vision Seminar Process as possible. This report does not take a clear theoretical or research perspective. Instead it holds a practical approach, expressing advices and share experiences.

We would emphasize that these descriptions of the Vision Seminar Process (VSP) and the directives of how to perform such processes do not claim to be the only way. They are however our experiences of best practice and are built on experiences from a number of research projects comprising fully 20 years of research work. Nonetheless, the process will continue to be applied and thereby evolve and be developed further as new experiences are made.

1.1 Definitions

Work group – consists of work representatives (practitioners) from a work place. The term is chosen to emphasise that the group is expected to carry out a work, not just sit and talk.

Participant – a person and representative from the work context that as a part of a work group participates in the vision seminars.

Practitioner – a person carrying out his or hers professional work.

Process leader – a person responsible for planning the whole process and to guide the discussions during the seminars in a creative way.

Seminar – the forum where researchers and practitioners meet. A seminar is not a forum for directed lectures or a one-way communication of information. Instead, we view a forum as a joint learning process aiming at participation on equal terms between all the participants.

2. Foundations for the Vision Seminar Process

The Vision Seminar Process is build up by a series of seminar occasions. They constitute the body of the process where the important user participation takes place. In these seminars a work group with representatives for the future users meets together with one or two designers that also possess the role as process leaders. Work in the vision seminars substantially aims at jointly develop a vision, a mutual idea and a visualization of how a future work as a whole should look like. Our approach to the work with visions about future work is based on a number of basic conceptions:

- The objectives addressed in the seminar work should be realistic and reachable, holding effective and attractive work with a healthy work environment.
- If new supporting IT systems are to be build in order to support future work, this future work must first be defined, thereafter requirements can be defined regarding suitable and usable IT systems. In such way, a new IT system should not be designed for the organization that exists today, but for the future organization. To make full use of the existing potential of improvement, possibilities to change the organization in different aspects such as work processes, responsibilities, competences, management etc must be used.
- Work must be considered as a whole. Organization, work processes, supporting IT systems all make up a whole that must be considered.
- It is important to achieve a common consensus within the organization about in which direction the vision is striving for and what plans that are ahead.
- If the technical system development is to function properly, there must be a solid ground for forthcoming requirement specifications and development activities based on the results from the VSP.

2.1 Perspectives

In an iterative action research setting, applied in various cases using the VSP, vital standpoints or points of view have been formulated and developed over time. The most prominent in our underlying important values for what should influence application of the Vision Seminar Process have been expressed as three perspectives. These perspectives are here shortly summarized:

1. *Focus on future work* - Emphasizes design of and for the future organization, future work practice and supporting technology.
2. *Focus on IT as engine* - Uses the potential of new technology to engine new ways of working and pushing organizational and work development. IT is to be the driving force for development.

3. *Focus on healthy, sustainable, work* - Pays attention to work environment and occupational health problems and prevents them from arising in future work.

These perspectives serve as a foundation, overarching goals and basic values for an application of a Vision Seminar Process. At the same time, they can be considered a result, as they have developed iteratively during years and applications of several projects. These fundamental perspectives are extensively explained in Hardenborg (2007).

2.2 Main Characteristics for the Seminar Work

The most important instrument in the Vision Seminar Process is the seminars - recurrent meetings involving the workers and the process leaders. The main setup is to let one or several work groups consisting of experienced workers to work rather freely during recurrent seminars with a sequence of questions. These seminars are together basically following the structure of the future workshop concept, when they together comprises following activities:

- Describing and analyze today's work
- Identifying need for changes and possibilities for such work
- Formulating a vision of the future "good and healthy work"

Most central in this work is the vision about the future work within the organization. This vision is communicated in several forms having different focuses. Initially it is formulated as a number of important aspects characterizing the future work. Eventually it narrowed down and described more concrete and in continuous descriptions, i.e. in scenarios describing how the future work is carried out in practice. Thereafter focus of the future work is moved to the details in the work described in the scenarios and what parts it consists of.

2.3 Vision of Future Work

To formulate a vision that in a concrete way describes the future work is important to ensure that all forthcoming development efforts are striving in the same direction. It is also a great advantage for the target organization if there is a clearly formulated vision known by everyone. This can both support concrete discussions and reduce anxiety concerning the future of the organization.

A vision of future work is also important in order to relate requirements from technical systems to something substantial. Usually such requirements are based on the present organization and the prevailing way of working. Consequently today's work processes and circumstances are made permanent, we are "paving today's cow paths" and the potential existing in the power of change cannot be benefited from.

Such vision of future work does not imply that everyone gets one's way, but it provides a visualization of the organization's goals. Hopefully this provides for less unclearness and anxiety over what will happen and how the

future will be. A concrete vision facilitates for constructive discussions about alternative goals and ways to get there. Such discussions can otherwise be vague and perplex without a common vision.

A vision of future work does also facilitate to in advance, evaluate different aspects of the future work and organization. Thereby, better conditions can be achieved e.g. identifying work environment and efficiency risks. In such way the future work can be somewhat “quality assured” before any problems have arisen.

The concept of a vision of future work does also imply that there are no guarantees that the vision will ever be realized. Prerequisites can change, some things can turn out to be impossible to handle, changes can be made and new goals can be defined during the way. It is therefore very important to clearly formulate what a vision of future work actually implies, how this vision is to be used and what can come about in the course of time. The vision should consist of what is presently agreed upon, but there should at the same time be an understanding that this vision constantly needs to be revised. A future vision that is not possible to fulfill must not be misleadingly worked with.

2.4 Results From the Vision Seminars

Goals and the purpose for an organization to carry out a Vision Seminar Process can be different. This is most obviously in the end of the seminar process and in the way chosen to continue work with the final result from the process. In the VSP, the final result is generally described and formulated as scenarios. Due to the purpose with the process this can be expressed in various ways. Results can vary from being more general descriptions of the organization’s basic values and organizational goals, to be very detailed and hard coupled to a continuing system development and requirement specifications process.

As a basic setup of the VSP, following documents are usually produced.

- *Future Conditions and Prerequisites* - A description of the future conditions and prerequisites which are likely to have a future influence on the organisation and the technical solutions. Bigger organizations often have formulated future strategic plans or a policy regarding possibilities for organisational change, e.g. a long-range budget or business plan. Such directives can be hard to change and have an influence on. These are the prerequisites that the forthcoming work must be based upon.
- *Aspects on Future Work* - Recognized important aspects on the future work, i.e. “what should characterize our work in the future?”. A first formulation of the desired future work. Such work can be described in various ways and from different perspectives. A coherent perspective or description of a phenomenon defines an aspect of the future work e.g. “Coherent health care planning” or “Increased economic responsibility”.

- *Scenarios* - Illustrate how a day at work would look like if the specified aspects of work were implemented. Preferable a number of scenarios are written to practically describe the important parts and situations of the future work. Scenarios are meant for providing understanding of the proposed future work and thereby possibilities for support of that work.
- *Work Tasks and Activities* - The work described in the scenarios formulated as work tasks and the different activities a work task can consist of. In this way, more detailed work descriptions are provided to decide if any and what IT-tools are needed and if that is the case to create a base for how IT-systems can be designed to support the work. This may also serve as a basis for a next step into the prototyping phase.

These documents and the process of writing them are more detailed described in chapter “5. Documentation”.

2.5 Prerequisites for a Successful Process

Use of visions of future work in such a way that is described here may facilitate improved result of the IT development, together with an increased commitment and legibility in an organization’s strive to attain changes. However, this is depending on success in respect to a number of aspects. Based on experiences we would like to emphasize the following factors to be considered in order to reach successful results:

- There must be a clear and pronounced intention to work in such way, which is to focus on organizational effectiveness and work task fulfillment by prioritizing the workers, the future work and a healthy and sustainable work environment. This additionally requires that the basic values and perspectives are acknowledged.
- There must be a consensus within the organization about this, making all parts agree upon the ambitions, plans, supplied recourses etc. Work in the seminar series carried out by the work group must be well anchored within the organization.
- There is a clearly formulated assignment and mandate to the involved work group(s), as to other persons that are or will be involved in the work with the VSP.
- The management is clear, engaged and resolute when it comes to perform change according to current principles and acknowledges to the basic values and perspectives this involves.
- There must be an devoted work in the work groups. The representatives chosen to participate must feel engagement and show interest to participate.
- It must be given enough resources to carry through the process. The selected work group must for example be given reasonable conditions to participate. Also support from the local management is decisive.

- The process leaders must be knowledgeable and well-informed. The method for the VSP can by its nature not be detailed and well structured, It thus demands an ability to consequently adopt the activities to the group and the work in progress, to find rewarding and effective solutions to make work proceed and to reach a good result. Competence and experience is therefore essential qualities for the process leaders.
- Result from the seminar work must recurrently be communicated to everyone concerned in the present work and in the forthcoming changes. A way to achieve this can be to communicate results through progress reports, oral presentations and to invite key persons to a dialogue and provide possibilities for complementary additions.
- When it comes to taking care of the results from the VSP, the purchaser of the project has an important responsibility. It is essential to understand that the vision seminar work call for expectations as well as curiosity and sometimes anxiety among the ones involved and concerned. Even if everyone knows that there are no guarantees for what will be carried through in the end, the result from the VSP must be well taken care of in the organization. An important aspect is that when the work group has completed and handed over the result from the VSP, it is no longer their property. The result as well as the responsible for the material and the continuation does thereafter belong to the assigner. Individuals from the work group should not be hold responsible for what it contains. They have as a group been given an assignment, carried through the work and delivered a result. Thereafter their assignment is completed. Naturally, they can be given more assignments, but the importance is that each assignment has an end; the assigner receives and administers the result, and thereby acquires the responsibility.

3. Planning the VSP

A major prerequisite is that the process leader(s) and the seminar group recurrent plan and carry out the seminar work in order to reach the best results according to the prevailing circumstances. There is often a need for reconsider plans and to find new angels to strive towards. Plans can for example be made up in advance for handling certain moments in the process, but there must be a sensitivity for the current situation and to adopt the activities accordingly. Consequently it is important to have a good picture over what is to be done and how to reach the final results. Thereafter suitable methods can be used to advance in the process and reach the defined goals.

3.1 Prepare

3.1.1 Strive for Empowered Participation

The whole accomplishment of the process and how to handle the delivered result must be agreed upon with the management of the organization in advance. It is hence important to involve management and make sure to have their support. In addition they should be frequently informed of the progress made in the process. If the goals of the Vision Seminar Process tend to be directly contrary to the goal for the organization at large, then the project is likely to fail.

Moreover, a clear authorization to realize the process in practice must be achieved. This authorization must apply to the participating practitioners in the seminar group, and their respectively managers and workplaces in order to make them feel safe and understand that their efforts are fully supported and valued. To ensure real, active involvement, users have to be freed from equivalent part of their daily work to avoid requiring them to do double work.

The Vision Seminar Process builds to a large extent on continuity and a gradually building of knowledge. Knowledge is anchored in the certain individuals and consequently it is a great loss if someone decides to leave the group and the project. A stable group is therefore required.

3.1.2 Find Strategically Conditions

When planning a Vision Seminar Process, it should be found out and made clear what conditions and prerequisites the forthcoming seminar work must adapt to. There should not be a single focus on IT related questions, but also on organizational plans and directives. Descriptions of higher level plans for the organization hence constitute the frames that the result must relate to. Such organizational plans are mostly available on different management levels.

It is important for the VSP to have access to such realistic prerequisites when developing visions of a future work. To make it possible for the seminar group to work with such visions based on realistic conditions, and to make up realistic delimitations, the work group should be provided with documentations and material providing a clear picture of the prerequisites and conditions that have been stipulated.

This initial work is further continued in the seminar series and ends up in a report, that is a report concluding all strategically plans, decisions etc. that have influence on the prerequisites and conditions for the future work and its tools. This document is further described in chapter “5.1 Future Conditions and Prerequisites”.

It can be a well invested time to put an effort into this work. All that is strategically planned within an organization is often not written down and collected. Important aspects can hence easily be overlooked with troublesome consequences. It is also important for the workgroup to take part in everything that can simulate new thoughts and ideas. If a relation can be created

with a person with good insight in the organizations strategies and plans, then information can be easily provided to the work group.

3.2 Assembling the Work Group

To assemble the right participants to the work group is decisive for a successful Vision Seminar Process. When putting the work group together, our experiences are that it is important to consider the power relationships between the participants. The persons participating in a work group should find support from the other participants, and not experience any restraining threat from people in superior positions. They should feel solidarity, help each other, complement each other and in the same time dare to question other's opinions. This approach is also proposed of Bødker (1991) "in order to limit the effects of unbalanced power and resources in the design process". In addition Bødker continues to list a number of criteria for assembly the work group.

- Participants who constitute statistically representatives samples
- Representatives elected by the users
- Employees with experience using computers
- The most skilled workers among the future users
- The most enthusiastic among the future users

We agree on the difficulty to point out one of these criteria as better than the other. The choice must be well thought out and discussed carefully given the conditions for that specific situation and project. Different methods have been tried out to put together a work group. Generally, it is found essential that the persons participating should be engaged voluntarily and not forced to participate. Following criteria can hopefully be a further good guidance:

- Extensive information about the project and thereafter a voluntary application is one way if all practitioners can be reached with information.
- To handpick participants considered suitable can also be a possible solution. The most important is that the group gets a good and mixed compilation.
- The group should consist of representatives from all essential competences from within the organization. If there are several large professional categories, all apparently affected by the future changes, it should be considered to carry through a separate vision seminar series for each category, or involved them all in an appropriate way e.g. through interviews, larger meetings or field studies.
- The group should mainly consist of experienced practitioners that know the organization and have confidence from their colleagues.
- It should be co-operative persons holding a strong engagement in their work

- The continuous participation in the seminars is of great importance and participants in the workgroup must realize the importance of participating in all seminars during the whole project.
- Persons with typical management work tasks should not participate in a group together with minor officials. This is to prevent from that critique against the present organization is choked or that sensitive discussions are avoided. Persons that have or have had a responsibility for how things are at present can easily found themselves in a defense possession that restrains visionary and creative discussions. Moreover, what is striven for in the vision seminars is mainly a focus on how work is carried out in practice, and management does seldom possess that kind of knowledge. Management's knowledge and experiences is adhered to in other way, such as in the definitions of the strategically conditions, in interviews and when to take care of the results from the process.

3.2.1 Roles in the Group

In the setup of vision seminars, we can distinguish two separate roles. However, they are both titled differently depending on the specific case depending on background, purpose and context.

The participants in the seminars can be referred to as workers or practitioners (given more focus on their work practice) and future users, or just users (given a perspective to development of an IT system). Hence, their role in the seminar is to represent the work place and contribute with their domain (work practice) knowledge.

The workshop leaders are supposed to guide the seminars and contribute with their design and organizational development knowledge. Mostly they are participating taking the role as designers or researchers. Consequently, all participants' collected knowledge provides good conditions for proposing better ways to work and better tools for such work.

3.2.2 Number of Participants

A manageable number of participants (excluding the process leaders) in a vision seminar work group seem to be around six. Even if continuity is to be highly striven for, a defection must be manageable and not constitute a catastrophe. Four is therefore too few in case someone leaves and eight are a bit too much when it increases the risk that not everyone are allowed to fully participate and get to speak in a informal manner. If the group consists of persons from various parts of the organization, then it is easier to be few when it comes to making appointments.

3.2.3 More Advises

Voluntariness to a grate extent is worth striving for. Engagement and desire to participate are important qualities to bring about an efficient work in the group work.

Occasionally it might be necessary to reject persons if they are not considered to fit in or work well in such a group, or if they do not have the right competence. Participants in the group should consider themselves as equal. An even gender distribution is also an advantage.

3.3 Seminar Planning

3.3.1 Seminars' Number and Length

The number of seminars is chosen due to objectives and needs, and is in practice also depending on the available resources. Another decisive aspect is whether the participants are used to constructive thinking and to cooperate in a seminar form.

Consequently it is therefore hard to decide upon a certain number of seminar meetings. Nevertheless, our experiences are that less than four occasions are not profitable. Time is required to make all participants know each other, to learn how see their organization from "out of the box" and to start a reflective thinking. This may takes about two meetings. If the purpose with the Vision Seminar Process is more extensive and comprises e.g. concrete solutions such as prototypes, a larger number of seminars can be needed.

Each seminar should last for at least half a day. Experiences are roughly that less than four hours are not meaningful. Necessary activities as presentation, brakes, coffee etc. leave very little time left. On the contrary, more than six hours typically results in tired discussions and not as much of constructive work in the end.

3.3.2 Time Between Seminars

Intervals of about two to three weeks are to be striven for between the seminars. After more than three weeks the people involved (participants as well as process leaders) tend to forget what was done at the last occasion. This makes it hard to continue the work where it was ended and too much valuable seminar-time must be spent to catch up. On the other hand, less than two weeks tend to be too little time for participants' reflection and for carrying out the assignments.

3.3.3 Define a Time Horizon

In order to make up vision for a future work situation, conditions for that future work situation must be provided initially. One important govern factor is the time horizon, that is when the work being discussed is to take place. The time horizon chosen should be realistic and the proposed future work should be practicable within the chosen time.

An approved time horizon is five years. That is not an indefinite time span, nor is it close as tomorrow. It is in the foreseeable future. Hence, technology evolves fast and development can be relatively predicted for a five years perspective.

The time horizon is suitably stated as a fixed imaginary future, e.g. “We are to describe how our work can be carried out in year 2012”. An inspiring feeling of looking into the future should be striven for. If the time horizon is defined too far into the future, there is a risk that the time aimed at is perceived as too distant, preventing concrete ideas about what can be done.

The time horizon can be defined by the employer organisation, or defined by the work group itself as soon as the seminar work has begun. The latter can be of great advantage in order to make them feel responsible for the choice, and not just impute it to them unjustifiably. When discussing a future time horizon, it is a common apprehension that things can be changed rather quickly. A profitable reflection to do is to consider how much has happened during the past five years. That often illustrates that extensive changes are not made quickly in practice.

3.3.4 Seminar Contents and Activities

The seminar meetings are held according to a plan made up in advance. However, this plan must be possible to continuously revise. Discussion in the group will take turns that are not prepared, certain moments will not take as long time as planned etc. It is important for a creative process as the VSP that ideas from the participants may have large influence on the work in the seminars. It is the process leaders' role to be sensible all the time for what occurs in the discussions and adapt to that in a proper way.

It should be pointed out that the work in the seminar meetings has a strong iterative character. Questions are initiated and discussed on one seminar meeting, thereafter returned to in the following meeting and in such way developed until a satisfactory result has been reached and all participants are satisfied. A certain issue can be treated both as an activity in the seminar discussions and as a home assignment. If an issue can be considered extra important, it can then be treated extensively. Hence, such issue can first be prepared and initiated as a home assignment and thereafter discussed at a seminar where each participant can present and compare to each other's results.

A rough plan for questions that can be dealt with during the meetings:

- What is the main assignment for the group?
- How is the result supposed to be presented?
- How should activities be planned in the group?
- What is the group's mandate and how does it affect the work?
- What are the strategically prerequisites for the future work? Presentation and discussion?
- •What time horizon is used for the proposed IT system? What kind of future does the project aim at?
- How is today's work carried out? What problems do we have today and what parts are really good in today's work? This can sometimes be important to treat more extensive, especially if the mem-

bers in the seminar group are from different parts of the organization. Things to describe more in detail can for example be:

- Organization
- Work processes
- Method of working and roles
- Communication patterns
- Information channels and information systems today
- Ongoing change activities
- What are the identified threats for the future work and why? Focus exclusive on threats and a “negative thinking” until negative thinking becomes troublesome and boring. Then continue with wishes and a positive thinking.
- Wishes for the future. Improvise and develop the most pleasant progress for the work place and its individual. What is the very best thing that can ever happen and why?
- What work procedures and traditions are worth to keep from today’s work and why? Discuss what and why some things are worth holding on to.
- What are the goals with today’s work and in the future work? Are the goals the same? What do we want to accomplish with the future work and why do we want to do it in another way? This description can be build upon the document “*Future Conditions and Prerequisites*” (see chapter “5.1 Future Conditions and Prerequisites”), and partly on what the participants themselves experience as important parts of the visionary work. Goals can be management’s goals for the organization; it can be business goals and individual goals. These goals should be formulated as clear as possible and preferably agreed upon with other concerned parts from the organization. Goals should be defined with a structure allowing them to motivate the proposals from the vision seminars. Hence, the forthcoming defined visions for the future work should not just be a list over how future work should look like, but the proposals should also be motivated in terms of how the proposals contribute to achieve the defined goals.
- How will we work in the future work and how do we reach that way of working? Here a number of aspects of the future work are treated. These are more throughout dealt with in the report “Aspects on future work” that is described in chapter “5.2 Aspects on Future Work”.
- How should the future IT systems support the proposed future work? Initially discussions should be detailed but on a conceptual level.
- Scenarios describing future work. The participants are here writing their own concrete stories about how the future work will be

carried out in practice. This is further described in chapter “5.3 Scenarios”.

- Let the participants reflect over how they would do if they were the boss of the organization. Let them express themselves in terms like “*If I was the boss, then I would...*”.

4. Realization of the VSP

4.1 Accomplish the Vision Seminars

Proposals and experiences are here presented of how to carry out the practical seminar meetings in the Vision Seminar Process.

4.1.1 Taking Minutes

Minutes are taken to document each meeting. The minutes should be relatively detailed and be written in close collaboration with the seminar leader by a certain person responsible for taking minutes. The minutes are not to be verbatim, but on a more comprehensive form. However, the responsible person is not to be someone of the representatives from the target organization but an in advanced chosen person. There can for example preferably be two process leaders that alternate their tasks, switching between leading the seminar and taking minutes. By making sound recordings, the person taking minutes can be more active during the seminar and write the minutes more carefully afterwards. However, our experiences are that it is not profitable to transcribe all sound recordings verbatim. That is too circumstantial and less profitable.

If notes are made on white board or flipchart during the seminars, papers can be saved and the white board be photographed as a part of the documentation. In some special occasions the seminar group can all take minutes that are later on used as documentation.

The minutes taken are sent back to the seminar group as soon as possible after the seminar. During the time between seminars participants are given the assignment to proof-read the minutes and to make sure that everything is correct, that the right terminology is used etc. By the means of beginning every seminar with a going-through of the minutes from the last meeting, a profitable feedback and repetition of what has been done is reached. The seminar group is also given the opportunity to call attention to discovered errors and obscurities. When a minute has been examined in such way by the whole group and been corrected and rewritten according to the feedback, it can then be considered final and something that speaks on behalf of the whole group. This is important to explain carefully for the seminar group.

4.1.2 Reflection Between Seminar Meetings

The time between seminars is an essential and very important part of the Vision Seminar Process. Fundamental is that both practitioners and the process leaders are given time between the seminar meetings for reflection, feedback, analysis and construction of new ideas and content for the next meeting.

Activities during the time between seminars:

<p>Practitioners:</p> <ul style="list-style-type: none"> • Daily “normal” work • Proof read minutes • Carry out assignment • Discussion with and involve colleagues in the VSP questions 	<p>Process leaders:</p> <ul style="list-style-type: none"> • Finish the minutes from the previous seminar and send them out to the participants • Analyze the results from previous meeting and prepare details for the next seminar based on that. • Prepare the next assignment
--	--

Between the seminar meetings the seminar groups is engaged in their regular everyday work. But during that daily work, the intention is to provide reflection. That is, reflection over how work is carried out, why things are in a certain way and how things would be if work was carried out differently. During the seminar meetings, practitioners are encouraged to think differently, more critical and in new alternative ways. The intention is that the practitioners will develop their ability to reflect over a day’s work, consider the planed future work and come to the next seminar meeting with new ideas and inspirations about their work.

The VSP tries to facilitate this reflection in various ways:

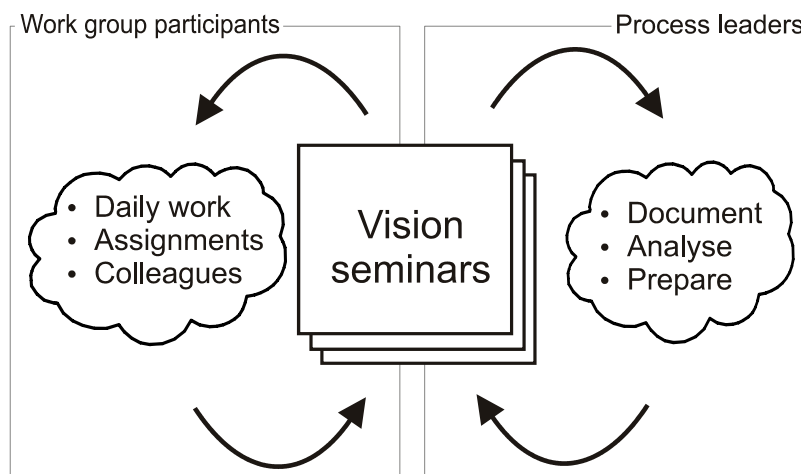
- Through the assignment to proof read minutes.
- Through additional home assignment
- Through encouraging the practitioners to involving their colleges in assignments and, more in general, in discussions held in the previous seminar. This can be carried out in structured meetings at the work place or more unpretentious during work or during brakes.

4.1.3 An Iterative Process

To fully understand how to carry out a Vision Seminar Process, one should understand the process’ iterative character.

The Vision Seminar Process is build upon a number of seminars with a workgroup. The main idea is that subjects or questions that are issued during the seminars should be recurrent and developed successively from seminar to seminar. This is performed with methods such as with home assignments and other methods presented in this report. The content in each seminar meeting is naturally important and should be planned carefully, both in ad-

vance and thereafter successively according to the development during the seminars. What is moreover vital to understand is the importance of the time needed between the seminar meetings. That is not dead time to spend awaiting the next seminar, neither for the practitioners nor the process leaders. During time between seminars, two concurrent processes are in progress.



The seminar meetings are central to the process. The figure illustrates the important reflective process between seminars.

The process leaders use results from previous meeting to prepare the next. To more extensively work with certain questions and issues, a subject can be brought up again to be discussed in more detail or be clarified if necessary. The same subject can for example then be turned into an assignment that also involves participants' colleagues. Consequently questions and proposals are worked with iteratively and are refined during the process.

An iterative process like this has some consequences to be aware of in order to be handled properly. When working with documents or a result of any kind, it can in this iterative way be refined in several iterations. It can however be hard to decide when to stop, consider the result as satisfactory and move on. There are no clear answers to this as an iterative process like this are depending on many factors and is therefore unique. Consequently it is not possible to provide a cook book description of the process.

4.1.4 Assignments

From one seminar meeting to the next, an assignment is preferable given to the practitioners to consider and perform. The concept with assignment has several important purposes:

- It encourages the participants to engage in seminar work during the time between seminars. Hopefully, it makes the practitioners to come to the next seminar with new questions, ideas and proposals.
- Assignments aims to facilitate and encourage the practitioners' reflective thinking while carrying out their daily work.

- Assignments save seminar time when making the practitioners to carry out a valuable work, but not during the meetings.

The theme of an assignment can be an input to the next meeting and thereby also save valuable time. An example is the assignment to write down all possible ways of communications with colleagues that is used during a normal workday. The choice of assignment is related to when during the seminar process it is given, and what is needed to do and prepare until next seminar. Some examples of assignments are:

- Consider how work is carried out today and how this would change if proposed changes would be implemented. The participants can preferably make notes about their proposals and bring the notes to the following seminar.
- Find out and document a certain state of things, for example how a particular work moment is performed or how an IT system is designed.
- Write the essay “A day at work”. Write shortly about what you are doing during a normal day at work.
- Write the essay “A day at the future work”. Describe a day at work given the conditions and proposals that have been made during seminars.
- Interview a number of colleagues and find out their opinion about a certain question.
- In the latter meetings, assignments can be to work with the scenarios describing future work. To write scenarios can preferably be a continuation of the assignment to write the essay “A day at the future work”. Scenarios work is described in more detail in chapter “5.3 Scenarios”.

Many of the exercises explained in Appendix A can also be suitable as assignments.

4.1.5 Advises

A few advises to the one that is to lead and plan a Vision Seminar Process:

- Bring the group together and make sure that everyone is feeling concerned, is treated well and is feeling accepted in the group. A good way to accomplish this is through mutual activities such as meals, study visits and other ways to spend time to get to know each other better. This goes for the participants as well as for the process leaders.
- Make the assignment for the Vision Seminar Process clear, almost over-explicit. Repeat often during the process.
- Advocate for a nice and pleasant atmosphere where everyone can enjoy and perceive the seminar work as profitable and fun.
- There are several trick and methods to bring the process, reflection and the train of thought forward. Some examples are:

- Talk and discuss in terms of other practices or organizations that the participants are not a part of. Sometimes it is easier to be daring and bring up challenging ideas if it does not evidently touch upon yourself.
- Let the participants occasionally work individually and write down thoughts and ideas on post it-notes. Thereafter all notes can be presented and mutually discussed in the whole group.
- Divide the group in smaller parts and let the participants discuss for example in pairs during a shorter time.
- Buy the participants lunch and offer them, fruits, coffee with buns and cakes. It might be trivial but is a good and effective way to create a good atmosphere.
- Show great sensitiveness in listening. The practitioners' knowledge and experiences are important to understand and to value. All occupations are more complex than they seem when details are studied. Everyone should be able to bring fourth ideas during the seminars without getting critique or negative response. The process to step out of one's normal workday, describe and analyze what is done there and to create ideas of how it could be is much more difficult than we think. Not many are used to this and it is common both for participants and process leaders to be very tired after an intensive seminar day.

4.1.6 Involving Colleagues

As briefly mentioned on several places in this report, a lot is to win by encouraging the work group to involve their colleagues from their respective work places. The participants' reflective process is enforced if it is extended to include several persons in the discussions. Besides, more people's opinions are considered. What is probably the most important is that the VSP work group is getting more confident and safe by anchoring their point of view back "home" at their work place.

Colleagues can be expressively encouraged to participate in the given assignment between seminars. An example is an assignment where the work group member is to interview three colleagues and find out their opinion about a certain question.

4.2 Creating additional input

In addition to the procedure with seminar meetings, the Vision Seminar Process can benefit from additional methods providing knowledge both for the participants and the process leaders. Results from such approaches serve as a profitable basis for further discussions and work in the following seminars. Examples of such other methods are here briefly outlined:

4.2.1 Field Studies

Ethnographically inspired field studies can be carried out to study and learn how the practical work is performed. Especially the process leaders can benefit from getting insights into the participants' everyday work and learn about the workplace, to understand the terminologies, concepts and the context of where the seminar participants come from.

While conducting field studies it is close at hand to interrupt and to ask the participant to explain and reflect upon his/hers actions. Field studies convey an important understanding about work practice that will contribute to the discussions in the VSP, as well as to forthcoming analysis and design of IT systems.

4.2.2 Field Trip

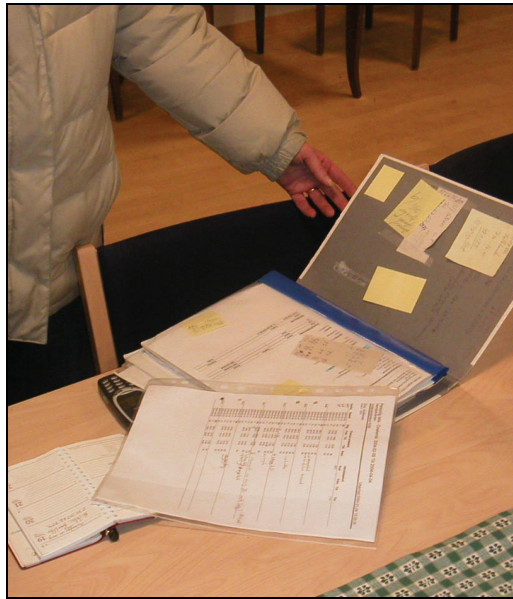
Arranged field trips can be carried out to interesting and profitable places and organizations that can broaden the participants mind and provide inspiration and ideas. The purpose is to provide the participants ideas about other solutions, what achievements other organizations have done and what technical solutions are possible. What is found good can be modified, developed, adapted to the own organization and reused.

4.2.3 Inviting Guests

During the seminar series, persons holding important strategically knowledge can be invited to a seminar as guests. They can participate in discussions, holding a dialogue with the group about issues that are unclear or difficult. Moreover, such guest can hold a lecture or contribute with his or her knowledge in any other suitable way. The guest can for instance be a strategically important person from within the own organizations, for example a person from the management, business department, Human resources, IT department, etc. It can also be a person holding interesting visions about the future and who want to explain and discuss them with the VSP work group.

4.2.4 Gather Essential Tools

Gather information about artifacts or tools used in participants' daily work. It should be different artifacts providing information of the activities in the organization such as forms, information structures, schemas, abbreviation-list etc. Then let the work group study the material and discuss how work is carried out today, how and why these artifacts are needed and how work could be performed in a better way in relation to this.



A nurse and participant in the VIHO project demonstrates at a seminar her documentation used during a normal working day while traveling between patients.

4.3 Anchor the Results in the Organization

During as well as after a Vision Seminar Process the visions of future work, i.e. the results from the VSP, should be agreed upon with another group, for example a steering committee or reference group within the organization. The vision about the future work should hence be spread and anchored in the organization. That is to ensure that the VSP does not end up in an unrealistic proposal that is not going to be realized.

The local management's support and participation is important and the work in the VSP must therefore be recurrently anchored there. Also the central management's support is essential and they should also be engaged. Management should take a strategically position to the material and specify how it later will be taken care of, be used in future processes of change etc.

The persons that later on are to take responsible for the material and apply it in an appropriate way must actively participate in the presentation. Despite a clear and obvious presentation form, there can be an uncertainty concerning what the result really consists of. The receivers can therefore benefit from support from the VSP participants in how to take care of the result and the responsibility it implies.

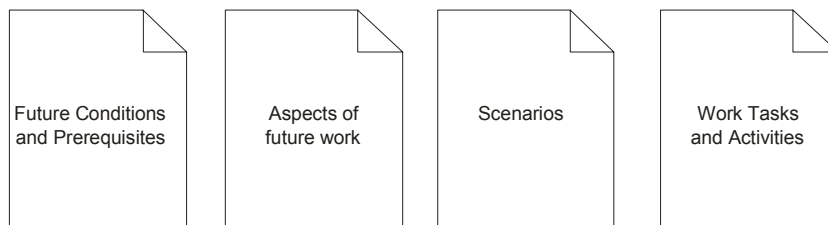
When the VSP is reaching an end and the work group has formulated a proposal or a vision of a future work, it should be brought back and finally be presented to the assigner, often the management. When this is done, the work group should actively participate in the presentation as it is their material and they are the main originators.

5. Documentation

The purpose of working and writing documents in the Vision Seminar Process is twofold. Documents are to serve firstly as tools for the process and secondly as results from the process:

1. *Tools.* The process to write the documents is a tool for iteratively work and to communicate results from each iteration. Documents are tools for reflection as they document and describe a discussion and are the foundation for a forthcoming discussion that also is documented. In this way, documents serve as iterative tools supporting reflection and are built up during activities in the seminars.
2. *Results.* When the seminar process is ended and the documents finally settled, they constitute together with the minutes a total documentation of what has been agreed upon during the Vision Seminar Process. Each document is also a result from a part of the process.

The process of creating each document is a fundamental activity in the seminar process and should involve the whole work group. Moreover, each document is a result and an intermediate goal during the process. Nonetheless, no document should be static and considered “finished” or locked until the end of the VSP. Even if the results from one document are input to the next one, writing of the documents should not be considered a strict chain. Instead they should be handled iterative and be written successively during the seminars. If something is considered wrong or missing in the latter documents, it should be possible to go back and change what is written in previous documents.



Documents used in the vision Seminar Process

5.1 Future Conditions and Prerequisites

The document “Future conditions and prerequisites” is written based on the organizations strategically prerequisites and conditions for the future work. This is most often something that already exists within the organization. In fairly large organizations, these plans are often already present as a part of their future business strategy and can initially be presented by the management. As such, these plans put up frames that govern the possibilities for what is possible to accomplish the nearest time ahead. Sometimes there also exist strategies and plans for the future that are not expressed in more formal documents. Such information can be transferred to the work group through dialogues with representatives from the management. The document does

not have to be extensive, as long as it contains the important parts that constitute the foundation which the following visioning work during the seminars should be based on.

Here is an example of future plans and conditions from the Swedish Migration Board. It is a goal from their statement of work¹ that in the end is prescribed by the government.

Goals

Examination of application

Decisions of residence permit or refusal of entry or deportation shall be made not later than within six month from that the application has arrived to the Swedish Migration Board. Matters where immediately refusal to homeland or third land is possible shall be decided on within three month from that the application has arrived to the Swedish Migration Board.

Future restrictions

Laws and regulations

There are strict laws that regulate how documents must be signed, archived and distributed. Today these laws mainly stipulate that documents must be signed by hand and archived in paper form. In order to make it possible to handle future documents electronically, some laws and their interpretation and application must be changed. We assume, as a basis for our visions, that it will be possible to work with electronic documents in the future. As an intermediate solution, we must be able to handle documents both in electronic and paper form.

Such future directives should hence be examined initially in the Vision Seminar Process and the once considered to affect the future work are discussed and described in the document Future Conditions and Prerequisites.

5.2 Aspects on Future Work

The document “Aspects on future work” focuses on aspects that are considered important for the future work by the work group. Aspects refer to a description of what can and should characterize the proposed future work. The described aspects shall be practicable within the general outlines, goals and expectations described in previous report, “Future Conditions and Prerequisites”. The form in which an aspect is described is very open and can be done in many ways. The aspects are described literary and structured under a number of sections or headings. Here are some of proposals of such headings. These are however not definitive. If there are needs for additional headings these can preferable be added.

- Definition of future has been used, what is the time horizon?

¹ Swedish: “Verksamhetsplan”

- Overall goals for the future work
- Goals for the supporting IT system
- Delimitation in the work with the proposal of future work
- Recognized threats and problems
- Possibilities and dream scenarios
- Positive parts of today's work
- Culture, engagement and basic values
- Service to customer
- Quality and quantity in work
- The future organization
- The future work organization
- Aspects on mobile work
- Competence and knowledge aspects
- Recruitment
- Collaboration in internally and externally
- The practical content of future work
 - New work tasks
 - Deleted work tasks
 - Changed work tasks
- Automation of work processes, information handling transformation to e-services and other kind of computerization
- Information needs in the future work
- Supporting IT system
 - Perceived problems today
 - The historical development of IT system in the organization
 - Present status and ongoing IT projects
 - General requirements on future IT systems
 - Desired functionality in a future IT system
 - Usability requirements on future IT system
- Occupational health issues
 - Recognized problems today
 - Future plans to work on occupational health issues
 - General requirements on the future work environment

- Expectations on future occupational health issues

- Reward system

An aspect should also aim at briefly provide a motivation why this certain aspect is important for the future work that is described. If possible, also the risks related with the aspect at issue should be briefly addressed in the aspect text. Here are a number of short examples of aspects from the VIHO project (Johansson and Sandblad 2005):

Autonomous Groups

The groups carrying out the practical health care work should be autonomous and be given a broader, local, responsibility than today. They are to organize and carry out their own planning, dispose their own resources and undertake their own quality assurance. As discussed in previous chapter, it is important that increased responsibility also is supported by increased possibilities.

Coherent Health Care planning

We want to achieve a common use within the organization of the individual care plans used in the elder health care. The whole chain of care planning; from the very first decision of assistance, care planning, intervention planning, execution and documentation and finally follow-up and evaluation – all shall be well planned, well known and concurrent throughout the whole organization. These objectives already exist today, but they are poorly fulfilled. It is desirable that the health care personnel participate in the decisions of assistance to assure that the decisions become practical.

Increased Economic Responsibility

The economical responsibility shall be moved further down in the organization, down to where the costs appear. Providing the right means in terms of access to information, education, authority and competence, it is where the cost actually occurs that they can be controlled. To facilitate a more effective use of the resources, it shall be possible to make economic plans in advance, not just to be able to look backwards to see previous expenses.

Increased Professionalism

Occupations in the elder health care deserve a better reputation. The feeling of being branded as a maid is frequently encountered. We want to work for a more pronounced professionalism where the personnel really are allowed to perform the undertakings they are educated for. This is also facilitated by the earlier discussed aspects of autonomous groups and increased economic responsibility.

During the work in the VIHO seminar series, three important qualities of mobile IT system have been recognized. These are also presented as aspects on future work and there as requirements of the future IT system.

Quick and Effective

In the home care, one of the mobile IT systems' most important attributes to consider is the speed. The time available to start a device, enter or read in-

formation etc. is strongly limited. Everything that is not perceived as simple, quick and supportive will be considered as bothersome and will hardly be accepted and used by the personnel as intended. This requires good hardware performance with fast networks and connections using effective verification and security procedures. Applications and interfaces are to be usable and quickly let the user carry out the actual work with a minimum of navigation in the interface.

Durable and Reliable

In distinction to desktop work, using a stationary IT system, the circumferential environment and the contextual aspects are of much greater importance when using a mobile IT system. A mobile work imply for a constantly changing environment with unpredictable activities. A user of a mobile device and IT system is often in need of carry out something else at the same time as using the device e.g. driving a car, giving medicine or bandaging a varicose ulcer. The device must endure various weather conditions as well as being carried along whole days in a bag or a pocket. The environment can be very noisy as well as silent and include water, vomits, blood, coffee and hasty movements. Much can happen that interrupts the use. A good mobile IT system for home care shall, as far as possible, manage the unexpected situations that can occur in the variable environments where it is used. To achieve an efficient IT system requires putting a lot of trust into the system by letting the system manage important information, sometimes of decisive importance. When the work is highly depending on access to such information, the system simply must not fail.

Flexible

Given the nature of mobile technology, the device has to be small and easy to carry along. This affects the technology in a number of ways. When physical size is reduced, the technical performance is deteriorated. Smaller CPUs are getting slower, memory and battery time is impaired as well. As another consequence of the reduced size, the probably most important interaction channel, the screen, is reduced in size. A smaller screen implies bigger challenges to design usable graphical interfaces to the system. Design knowledge becomes very important and must be carefully adapted to the conditions that exist for use in mobile contexts.

5.3 Scenarios

In the Vision Seminar Process, descriptions of future work situations are based on the aspects of future work and specified as a set of scenarios. These are concrete and practical descriptions of work situations taking place in the future organization. Scenarios are primarily made up by written stories, but can also sometimes benefit from being complemented by pictures, shorter movies or dramatization. One scenario can describe a larger or smaller part of one imagined practitioner's work day or during part of a day.

Writing of scenarios is initiated during the latter part of the Vision Seminar Process. The purpose and for whom the scenarios are written should be exhaustively discussed and specified. Moreover, suitable way to design the

scenarios and how they then will be used in the forthcoming work should also be discussed. Work group participants can be encouraged to read scenarios from other projects in order to get an understanding for the concept as such and to get ideas about how to express themselves.

Through writing the scenarios, the work group is supported to draw up a mutual understanding of the future work. By making thoughts concrete in writing, gaps and mistakes are more easily discovered. The accessible format also makes scenarios easy to communicate to other concerned parties, such as managers, colleagues, developers etc.

The purposes to formulate the vision of future work in terms of scenarios are summarized:

- To create a description of the future work that assembles the aspects of future work that has earlier been agreed upon. Hence the aspects are described in a context, with the means to give a rich picture illustrating how the proposed future work is carried out in practice.
- By doing so, the description can be easily communicated to other concerned parts.
- To create a discussion and reflection within the whole organization in order to facilitate awareness and a dialogue about future organizational changes.
- Scenarios' practical descriptions of the future work constitute a tool for a continuous process to recognize details in the proposed future work. Such details will further composing a foundation for identifying requirements on the future supporting IT system.
- The practical description of work can be referred to later on by the ones that are to carry out the system development process, in order to understand the context and in how a proposed IT system is to support work. By doing so they can also understand aspects that are decisive for the usability in the future IT system.

5.3.1 Content

The content of a scenario describes the process of the future work, its actions, when and in which context things occur and of what purpose. Moreover, it explains decisions that are made, information handling, what kind of communication that is carried out, what is communicated and with whom etc.

Scenarios should be based on the previously defined aspects of future work. However, when writing scenarios new aspects can be discovered and the aspect document should subsequently be complemented with the new aspects. That is provided that the whole work group agrees on the change.

Scenarios may be written in the form "A day at work 20xx". They should together cover the work as a whole, but especially focus on the parts that can be considered to be essential in the future work. They should aim at presenting the motivation included in the aspects, as well as the recognized risks.

One scenario can describe one or several work tasks. Work does most often consist of several essential work tasks, consequently requiring several scenarios. Depending on the purpose with the Vision Seminar Process, there may be a more detailed focus in the scenarios on the supporting IT systems and how they are used as a part of the work.

5.3.2 How to Write

Specification of scenarios may be made so that the practitioners involved can understand and describe them in their own terms. Therefore scenarios should initially be written by the practitioners themselves. Writing scenarios should further be carried out as an iterative process where the text are written, commented on, rewritten etc. To write a first proposal and be satisfied with that is seldom enough. Rewriting is hence an important part of the process.

When a first draft is completed by the practitioners, it can subsequently be further written on by the process leaders and thereafter send back to the practitioners for another writing iteration. The formulation of scenarios should hence be guided by the process leaders in order to assure that the scenarios cover the most important parts of the proposed and described future work situations, and so that they are detailed enough for the following steps of the design process. The final formulations and the approval must be the responsibility of the practitioners.

The following instructions can be appropriate to start from in the scenario writing process:

- Distribute the responsibility of writing the scenarios. Each one can have a specified assignment to write about a certain part of the future work. Start from a preliminary division based on the participants' work tasks. These parts should perhaps be written of different personnel categories, roles or competences.
- If the work group finds it suitable, the writing of scenarios can be performed in smaller or larger groups. Some groups wish to work cooperatively with the scenarios. The participants can choose the way they feel most comfortable with. The result should in the end be reconciled to make sure that all important parts are included.
- Write concrete and narrative. Describe how the limited work task is performed during a normal day at work. Try also to describe the deviations that can arise and how these are handled.
- When suitable, the scenarios can make comparisons with how the work was performed before, such as "today we work like this, compared to how it was earlier when we...". This will make clear the differences between how work use to be and how it is describe according to the vision of future work.
- Try to relate the proposal of new work as it is described in the scenario to how it can contribute to a better fulfilment of the goals and aspects of the future work that are specified in the document Aspects of Future Work.

- Describe, when relevant, how the future supporting IT systems are used to carry out the future work tasks. Do not describe use of the technology in detail, but in the sense of why it is used, which information, in which context that it is important for the situation and the desired effects.

To work with scenarios can be carried out in various ways and with different purposes. We have found the following refinement process profitable in the Vision Seminar Process:

1. *Early scenarios*

Participants in the work group do first write individual scenarios describing their future work situation based on the description in the aspects of future work. Aspects can be grouped suitably and divided between the practitioners to work further with as initial prerequisites for the scenario. Preferably this task is given as an assignment between two seminar meetings. Participants effort with the early scenarios should not be govern to a large extent. The result may be overlapping, leaving gaps etc. The important thing is that the scenarios are described in the participants' own terms and language that feels natural for them. These are the early scenarios and their production is fully depending on the work group's active contribution.

2. *Refined scenarios*

When the early scenarios are written they may later be further developed to focus more actively and detailed on the main future work tasks that will constitute the future work. Some early scenarios may be merged, gaps should be filled and appropriate adjustments made making all scenarios mutual compatible.

How this is carried out in practice can vary. Circumstances can depend on available time, engagement from the work group, quality of scenarios, required output and a number of other aspects. The scenarios can be worked with individually, in groups or by the process leaders. The important is to create a procedure where everyone in the work group has a chance to influence the writing of the scenarios. All should agree upon what is described.

The purpose of these scenarios are that they should be well defined enough to provide descriptions in great detail of the activities a work task consists of. This is necessary to make further descriptions of where, when and how a supporting IT system may be used and how.

A scenario is hence describing a defined part of a work that we will further refer to as a work tasks. A work task is carried out by a person with that responsibility in his or her work. A scenario can describe one or several work tasks, but it can be feasible to - if possible - strive for a 1-1 relationship between scenario and work tasks.

5.3.3 Advices

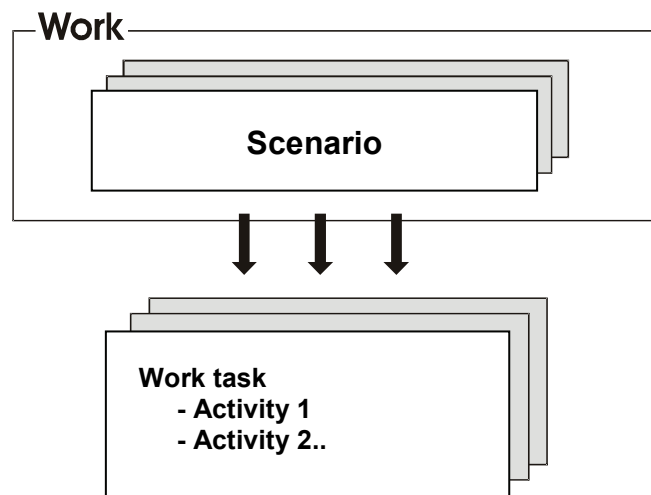
- In order to facilitate the writing of the scenarios, the work group can be advised to think as if they were to write a manuscript for a movie on the theme "A day at work 20xx". If given the necessary

prerequisites such a film could actually be made to get an extensive foundation for the forthcoming work, but this is however very circumstantial and expensive.

- Different persons have varying abilities to express themselves in writing and storytelling. Some people quickly write expressive descriptions while other writes more poor, short and objectively. However, everyone must be allowed to contribute and to write in his or her own way. It is further important to iterate the writing at least one time and let the group read and discuss each other's writing. It should then be watched over that it is the content in the scenarios that is elaborated on and not the form that is criticized.
- The scenarios use to be the product of the vision seminars that cause most external interest initially and is most distributed. The work group should be allowed to decide whether they want to be appointed out as writers of their respectively parts of the scenarios or if they wish to have collaborative authorship.
- During writing of the scenarios, the work group can benefit from assistance from colleagues not participating in the VSP work group. The can read and make valuable comments on the descriptions of future work.

5.4 Work Tasks and Activities

The work described in the scenarios is in the next step further specified. When scenarios are analyzed, it is possible to identify work tasks, i.e. more complete sets of tasks, performed during one limited time period. It is important to strive for a well defined definition of a work task to its purpose and in time. That is, a work task is something that is carried out in one sequence. A work task can in turn be divided into set of activities. An example of a work task for the home health care personnel is "Conduct a home visit". Activities for the work task can be: Give medicines, Document health status, Shower if necessary. Work described in such way and in such detail serve as input for the forthcoming system development process.



Based on a number of scenarios, work tasks can be identified. One work task consists of a number of activities.

When describing work tasks and activities, the description is found to also benefit from a description of the target situation where the work task is taking place. Such description is assembled from the scenario and appropriately complemented to provide a detailed description of context and situation for the future work.

Based on the scenarios written in the VisIT project, following work task is here illustrating an example:

Morning planning of a workday

- Read new care notes
- Plan activities together with a nurse
- Change to another work group
- Receive temporary delegation

This work task does not claim to be fully comprehensive or final. It is an initial version and a summary of what was described in an early scenario. The scenario was further elaborated on by the whole group and a more detailed description of the situation was added to the work task and the activities were made more clear and structured. The previous example was hence developed to the following:

Work task: Planning of a Working Day

Situation

The coordinator prepares a basic planning of the day, mostly early in the morning. When everyone has arrived it is clear what prerequisites planning should be based on. Patients can have phoned and told something that governs the day's planning. When necessary re-planning is carried out and changes made if someone is ill or missing. This possibility to plan and discuss in the morning is very valuable. It is important to have access to information and to do this planning during the morning meeting when there is possible to discuss issues with colleagues and nurses.

Activities

- Read one's schedule, primarily one's own
 - What patients are to be visited and when
 - What is to do at each patient
- Get information about new, unread notes that has been written since last login into the system
- Get information about new or changed decisions about patients allowed assistance²
 - Access to extensive information about the patient assistance when necessary.
- Get information if something has been changed in the patient care plan³
 - Access to the whole patient care plan when necessary.
- Change or overtake patients from colleagues and thereby make a change in ones day-schedule
- Save the new schedule
- Discuss, inform and consultate with the home health care nurse when necessary
- Coordinate plans with the nurses activities and patient visits
- Make phone calls
- Send mail and messages about less urgent errands so that the receiver can answer when feasible.

In such way activities in a work task were further develop in a second step. When all important work tasks are documented in a similar way, a good foundation has been created for the forthcoming work. The scenarios still describe context and motivations for the future work.

6. Continuation

The vision about the future work as described above does now consist of a work that has been documented in the documents "Future conditions and prerequisites", "Aspects on the future work", "Scenarios" and finally structured and detailed in "Work tasks and activities". This result can further be used in different ways, depending on purpose. The primarily use is to let these visions of future work be a base for the following development efforts that are needed to realize the visions. Such development efforts can be a matter of changes in work organization and in work processes, of acquiring competences and of developing supporting IT systems. All efforts made for

² The care and helping services the municipally have decided to assist each patient with. Swedish: Biståndsbeslut.

³ The plan that the home help services make to carry out the care and helping services for each patient. Swedish: Vårdplanering

development must be coordinated with the visions of future work as a common goal to strive for.

The primary goal for the vision seminar process is to be a tool in changing and reorganizing the work processes. However, VSP can and should be used to facilitate the development of any IT-tool that is found to be needed in the work activities. Moreover, the process may strengthen users' negotiation position within the organization as well as their skills to contribute fruitfully to the IT-system development process. Furthermore the use of VSP introduces new values in the organization that legitimize usability and user-centered systems development, as well as making explicit the connection and interdependence of work processes, IT tool usability, work environment, organizational goals and benefits.

7. References

- Bødker, S. (1991) *Through the Interface – a Human Activity Approach to User Interface Design*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Hardenborg, N. and Sandblad, B. (2007). *Vision Seminars – Perspectives on Developing Future Sustainable IT Supported Work*. Submitted to *Journal of Behaviour & Information Technology*, Taylor & Francis.
- Henderson, D. A., and Card, S. K. (1986). Rooms: The use of multiple virtual workspaces to reduce space contention in a window based graphical user interface, *ACM Transactions on Graphics*, 5(3), 211-243.
- House, JS. (1981). *Work, stress and social support*, Addison Wesley, London, UK.
- Johansson, N. and Sandblad, B. (2005). *Efficient IT support in care for the elderly - Experiences from the VIHO project*, Technical report, Department of Information Technology, Uppsala University 2005-032, ISSN 1404-3203.
- Karasek, R. and Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of working life*, Basic Books, New York, USA.
- Olsson, E., Johansson, N., Gulliksen, J. and Sandblad, B. (2005). *A participatory process supporting design of future work*, Technical report, Department of Information Technology, Uppsala University 2005-018, ISSN 1404-3203.

7.1 Reading Suggestions

- Aronsson, G., Åborg, C., och Örelius, M. (1988). *Datoriseringens vinnare och förlorare*. Arbete & Hälsa. Arbetsmiljöinstitutet, 1988:27, Solna.
- Aronsson, G., Dallner, M. och Åborg, C. (1994). *Winners and Losers from Computerization: A Study of the Psychosocial Work Conditions and Health of Swedish State Employees*. *International Journal of Human Computer Interaction*, 68(1), 17-37.
- Bergqvist, U. (1993). *Health problems during work with visual display terminals*, *Arbete och Hälsa* 1993:28, Arbetsmiljöinstitutet, Solna, Sweden
- Gulliksen, J. and Göransson, B. (2002). *Användarcentrerad systemdesign, en process med fokus på användare och användbarhet*. Studentlitteratur.
- Sandblad, B., Lind, M. and Nygren, E. (1991). *Kognitiva arbetsmiljöproblem och gränssnittsdesign*. CMD-rapport nr 20/91. Uppsala universitet.
- Sandblad, B., Gulliksen, J., Åborg, C., Boivie, I., Persson, J., Göransson, B., Kavathatzopoulos, I., Blomkvist, S. and Cajander, Å. (2003). *Work environment and computer systems development*. *Behaviour & Information Technology*. 22(6), 375 – 387.

8. Appendix A: Exercises

A number of exercises are here presented to use during the seminars in the VSP. Depending on the purpose and the specific circumstances, suitable exercises can be selected to fulfill the specific needs.

It should also be noted, that the way most of these exercises are carried out can be varied in a number of different ways.

- The exercises can be fully carried out during one seminar. Or, they can be presented at one seminar and then be given as an assignment until next seminar. A combination is to begin an exercise during one seminar and give as an assignment to complete, reconsider or redo until next seminar.
- The exercises can be carried out individually, in smaller groups or all together in the large work group.
- If an exercise is to be carried out more extensive, a good way can be to first let the participants deal with the exercise individually, thereafter continue to work in pairs and then end up in discussions in the whole group.

8.1 Exercise: Check-in

8.1.1 Questions for the Work Group

How are you today?

What are your conditions for today's seminar?

8.1.2 Procedure

This exercise can with advantage be carried out in the beginning of each seminar day. Each and everyone in the work group (not to forget the process leaders) are given the chance to tell the others what they like about their present individual situation, related to the recently initiated seminar.

To achieve the best effect, strive for attain an open hearted atmosphere. A process leader can preferable begin and thereby set a good example.

8.1.3 Purpose

This exercise aims to create the best conditions for a seminar day. A possibility is given all participants to explain his or hers present status and whether one is, e.g. upset, tired, engaged or enthusiastic – such things that have the potential to affect the rest of the seminar day and one's personal contributions. The chance is also given to express positive as well as negative critique about how the continuous seminars are working out.

One important aspect to return to each time is the reactions participant in the work group have met from their colleagues and management on their respective work places.

8.2 Exercise: Expectations and Apprehensions

This exercise is preferable to carry out in the very beginning of a Vision Seminar Process.

8.2.1 Questions for the Work Group

What expectations do you have on this seminar process?

What do you think the process will be about?

What do you hope for?

What apprehensions do you have on this seminar process?

What do you fear?

What is the worst that can happen to you?

8.2.2 Procedure

Strive for to encourage each participant (but also the process leaders) to explain open hearted about his or hers expectations and apprehensions about the seminar series and what is to take place. Let the participants, one by one, explain what they feel without being interrupted.

8.2.3 Purpose

This procedure aims to hinder misunderstandings between different persons and provides a mutual understanding of the upcoming activities. It can then be made clear what expectations and eventual preconceived ideas that can be found among the participants. Consequently, misunderstandings and insufficient information can be attended and other hinders can also be dealt with avoiding future problems.

Apprehensions of various kinds are illuminated in an early stage. Through being made visible early, everyone is given the opportunity to prevent that they occurs. The exercise also gives the process leaders the chance to avoid certain moments or approaches and adopt the forthcoming seminars to be as pleasant as possible. The work group is also told early what is expected from them and are given the chance to make objections at an early stage.

This exercise can be said to clean the air before the seminar series and it provides good prerequisites for the forthcoming Vision Seminar Process.

8.3 Exercise: Good and Bad Today

8.3.1 Questions for the Work Group

What do you consider good in the way work is carried out today?

What is important, what do we do good and with a high quality?

What is central, important and must not be deteriorated?

What imperfections are there in today's work?

What is bad?

What is missing?

What work is today insufficient?

8.3.2 Procedure

First consider in two sessions what is good respectively what is bad. The results from these two sessions put together to two lists over points describing existing shortcomings respectively what is considered good.

This list can be compiled after the meeting and then sent out to the participants during the time between seminars. Until next seminar meeting an assignment is to consider the points in the two lists and to grade them. Three points to the point that is considered most important in respectively list, two points to the second one and one to the third.

Through making the exercise to an assignment, the workgroup is given a chance to consider the proposed good and bad points again and under other circumstances. This can preferable also be done together with colleagues from their respectively work place. When resuming work on the list on the following seminar meeting, the work group is given the chance to complement the list with newly arisen points.

8.3.3 Purpose

In this way a list of important points or views of today's work is achieved. In the following work in the VSP the most important good points should be further considered and encouraged in the proposal of future work while the bad points should hence be counteracted and attended to.

To further ask the participants to grade the different good and bad points like this have several purposes.

1. To see whether there is a consensus among the individual participants' view of what is good/bad with today's work.
2. To identify extra important points
3. The identified extra important points are important to follow up and to work further with.

8.4 Exercise: Looking into the Future - Dreams and Threats

8.4.1 Questions for the Work Group

How would you describe your ideal future work?

If you can wish for whatever you'd like, what does the future way of working look like in the best of worlds?

How can today's work be changed to achieve these dreams?

Describe the greatest threat to future work.

What is the worst that could happen to your work in the future?

What does the future work look like in a worst case scenario?

What is your "nightmare" scenario?

What needs to happen to make today's work turn into this nightmare?

8.4.2 Procedure

This should preferably be carried out as two exercises. The discussions about dreams and threats should not be mixed up, but be separated to allow the workgroup to focus on one thing at a time. When the two exercises are so alike, they are here described as one.

The resulting descriptions become a list over dreams / threats. In the same way as in earlier exercise the result can be graded to get an understanding of what is considered as worst or as most desirable. The exercise can moreover be carried out between two seminar meetings to allow the participants further time for reflection.

When the descriptions are made the question is asked: What does now hinder that it becomes like this? How do we avoid the threats and realize the dreams? All desires will not be able to fulfill, but to develop a work or an organization in that direction is seldom unattainable. In the same way developments can be initiated to avoid the threats.

8.4.3 Purpose

Through making the very best respectively the very worst future work concrete is the purpose to make the workgroup to reflect over what is required in practice to actually achieve the best or worst work. Consequently, what should be striven for and avoided to achieve this? It is useful to have this made concrete and it can sometimes be easily achieved in practice.

8.5 Exercise: Broaden the Technical Perspective

Sometimes the practitioners, i.e. the future users, have difficulties to realize how the use of new technology could be used in a creative way that enable new ways to organize work and to perform the work processes. It is also

important to eliminate eventual unnecessary fear for the use of technology as well as exaggerated respect for the efficiency and blessings of computers.

8.5.1 Questions for the Work Group

How experienced are you with the use of computers?

How do you use computers in your work today? In other contexts, e.g. at home?

What do you know about use of computers in other organisations?

Do you know what kind of requirements it is possible to specify concerning usability and work environment?

8.5.2 Procedure

The first step is to map the competencies and experiences the members of the work group have in this field. Their skills and practical experiences can vary from super experts to pure novices.

The second step is to educate the work group members according to the identified needs. If appropriate, this can be supported by site visits to places where there exist experiences from new ways of working using technical support systems.

The third step is to guide the group to understand how they could develop organization and processes using new technology in a creative way. This must most often be done in several iterations where the proposals mature over time. It is important to evaluate how the use of technology can support a better fulfillment of the specified objectives and not fall into the trap of fascination over new gadgets.

8.5.3 Purpose

If we want the work group to be very creative concerning how modern technology could support and facilitate a positive development of the work organisation and the work processes they must be supported. They must be given the competence to question today's solutions. They must be able to see the potential use of technology as an engine to promote new and efficient ways to work. They must finally also understand both the potential benefits and risks and specify reasonable requirements outgoing from this.

8.6 Exercise: A Day at Work

8.6.1 Questions for the Work Group

Write the essay "A day at work".

What happens during a normal day at work?

What moments, problems, worries and joy does a normal day consist of?

8.6.2 Procedure

The assignment does not have to be more detailed. Instead the participants can freely write the essay, and probably this will generate different kinds of essays, written in different styles, focusing on different aspects. This is not a problem; instead the personal interpretation is rather an asset. The written essays can then be read, complemented and discussed in common during a seminar. When the exercise takes some time to accomplish, it can preferable be given as an assignment between two seminars. To make the exercise even more effective, the completed essays can also be distributed among the participants between seminars in order to allow for each participant to have read everyone else's essay until next seminar. The next seminar can consequently focus on the content in the essays instead of spending time for reading.

8.6.3 Purpose

This aims at achieving a mutual understanding among the participants of the work at issue. Even if they all come from the same work place they do seldom know everything about each other's work tasks, such as difficulties and ways to carry them out. If the participants come from different work places this is even more important. Much time is often spent discussing "we are doing like this - how are you doing?"

To make such description in writing does often make the participants to realize the complexity in their own work and thereby gain a stronger self-confidence. A usual reaction is "I had no idea that I did so much and complex things during a day!".

It is moreover an effective way for the seminar leaders to learn more about the work at issue and is therefore an exercise suitable to carry out in the beginning of a Vision Seminar Process.

8.7 Exercise: My Own Company

8.7.1 Questions for the Work Group

What would you do if your workplace was your own company and you were the manager?

How would you like your company to work?

How would you like your company to be structured?

How would you like your employees to act and behave?

What changes would you do?

What should be prioritized?

What would be added and what would be removed?

8.7.2 Procedure

Each participant is to present what kind of changes he or she would like to carry through given that he/she was the manager. A number of aspects can be given in advance to more carefully consider in the exercise. Examples of such aspects are: economy, recruitment, competence, time, how to work, scheduling, communication, information, leadership, reward system etc. Do then continue the questioning and ask the participants: What does now hinder you from achieving this in your present organization? Then discuss what can be done to handle these obstacles.

This is also an exercise benefiting from lots of time for reflection and thereby suitable as a home assignment to be presented and discussed at the forthcoming seminar.

8.7.3 Purpose

The exercise points out the work groups understanding of what in their work they find less good and what solutions to the problem they find suitable. To twist and turn on situations like this does mostly give unexpected effects. Through making yourself a boss or manager, and look upon your work situation from that point of view gives you a totally new perspective, mostly facilitating radical proposals of change that can be important to reach.

8.8 Exercise: Communication and Collaboration

8.8.1 Questions for the Work Group

What different persons and instances do you communicate with during your work?

Who?, When?, How?, Why?

8.8.2 Procedure

The work group is asked to consider their communication with other persons and instances during their work. To approach the question, the essay "A day at work" can be a good starting point. Sometimes you can take a marker pen and go through the scenarios and underline everywhere that a communication occurs. It is really hard to think of all communications, therefore colleagues and process leaders that have conducted field studies can be to a help. To enter deeply into each communication instance it can answer the interlocking questions who, when, how and why.

8.8.3 Purpose

If a work is to be supported, or partly be replaced, by an IT system, it is important that all instances that manage the information at issue are considered in the design of the system. Sometimes actors are forgotten or misjudged when making such considerations.

This exercise provides indications of which other instances from the organization that are affected by future changes. If these instances are considered of great importance they should moreover be considered to participate in or contribute to the Vision Seminar Process additionally, if they are not already doing so.

8.9 Exercise: Information Flow Analyze

This is a similar exercise as Communication and collaboration, but with a larger focus on the information.

8.9.1 Questions for the Work Group

How are different types of information handled in your work?

Who possess which information?

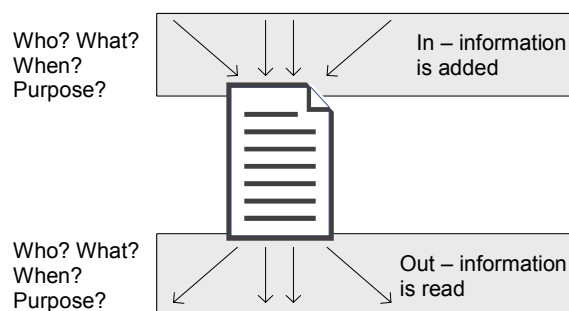
When?

Of what purpose?

8.9.2 Procedure

A way is to map the different ways practitioners in the work group actually access information. From each kind of information carrying document can following be paid attention to:

Who provide the information, what kind of information is it about, when do it happened and in what purpose? In the same way it can be found out who take part of the information, what information that is sought for, when this happen and of what purpose.



8.9.3 Purpose

This aims at to get a structured mapping over the information that is handled when practitioners are carrying out today's work. Through knowing how information is handled today, valuable knowledge is gained about how information management can be rendered more effective and applied in a future work and eventually supported by a future IT system.

8.10 Exercise: A day at Work 20xx

8.10.1 Questions for the Work Group

Write the essay about the future work, "A day at work 20xx".

Write carefully how work is carried out and how the organization is structured and details of the work practice.

8.10.2 Procedure

The participants write the essay "A day at work 20xx" where xx is the time horizon agreed upon as a goal for the project and the Vision Seminar Process. Our experiences are that this is a difficult undertaking that might need to be iterated and refined. A good idea is to (if the VSP consists of a sufficient number of seminars) carry out the exercise as a home assignment and then present and discuss the essays during a seminar and thereafter work further with the essay in yet another assignment. Parts of the participants' essays can then be put together, be worked further on and then constitute a first version of scenarios describing future work.

This exercise should be carried out in the end of a Vision Seminar Process. Participants have then during a number of seminar meetings dealt with aspects on future work and they have during a longer time created realistic and concrete thoughts about the future work.

8.10.3 Purpose

The purpose is to describe comprehensively how the proposed future work can be carried out. By making it narrative in the shape of an essay, the proposal of future work is rendered more concrete and tangible. The resulting essays are moreover a valuable foundation for the forthcoming step to start working with the scenarios.

8.11 Exercise: Check-out

8.11.1 Questions for the Work Group

How have you experienced today's seminar?

What was good and what was bad?

Are you satisfied, surprised or perhaps upset?

Are there any Ideas or proposals for the next meeting?

8.11.2 Procedure

Similar to the check-in exercise, each and everyone is asked to briefly describe his or hers experiences from the day's seminar. Perhaps have some

questions been raised or needs been found to express other things. This is also a good opportunity for the process leaders to make sure that the assignment and other undertakings until next seminar have been properly understood by everyone.

8.11.3 Purpose

The exercise provides important feedback to the process leaders about how the recently completed seminar has been understood by the participants and what can be carried out differently next time. It is also a good opportunity to give comments and in general explain things. Hence, the exercise becomes a natural round-off of the seminar day.