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Knowledge and Learning in Complex Urban Renewal Projects; Towards a Process Design

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KNOWLEDGE AND LEARNING IN COMPLEX URBAN RENEWAL PROJECTS; TOWARDS A PROCESS DESIGN

(draft version, April 2006)

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ABSTRACT

Urban renewal processes are complex and uncertain; complex because several parties are involved bringing in a wide range of diverging interests, and uncertain because planning is about changing the future, and the future is largely unknown. Therefore, planning involves understanding and managing uncertainty (Abbott, 2005). In addition to uncertain, urban renewal processes are knowledge intensive; the work that needs to be done in planning processes requires a large amount of knowledge, it is knowledge work. With learning, uncertainty becomes more manageable and the quality of the knowledge work can increase. Learning can be defined as the creation of knowledge that is applicable in the activities of the parties involved (Argyris and Schön, 1996). In the early stages of urban renewal processes, learning entails the creation and application of knowledge during decision-making. This paper is part of a research project that investigates how learning in the early stages of urban renewal processes can be enhanced in order to improve the quality of decisions. In this paper a first version of a process design for enhancing learning in urban renewal processes is developed, based on several theoretical themes. An important aspect of the process design is a model of learning as a cyclical process consisting of the following phases; formulation of vision, goals, strategy (1), determination of the knowledge needs (2), knowledge development (3), knowledge sharing (4), knowledge application (5), and knowledge evaluation (6). (Huber, 1991; Weggeman, 2000) Other elements of the process design developed in this paper are insights from policy learning theory and factors that are known to increase knowledge application.

INTRODUCTION

Today's *network society* (Castells, 1996) is characterised by high levels of complexity and insecurity due to, amongst others, globalisation and an increased speed of (technological) developments. This is not a new perspective, many authors have argued that society is changing faster and becomes more complex and turbulent (Drucker, 1969; Galbraith, 1977, Emery and Trist, 1965; Michael, 1973). This has implications for planning processes and practice; it has become difficult to predict what the future holds and it is unclear which actions will lead to which results. Therefore, an important challenge for planning practice is to understand and manage *uncertainty.* This uncertainty results from the social environment or planning context, as well as from the planning process itself (Abbot, 2005). The simplistic views of linear causality, the ability to predict, control and manipulate are a thing of the past, present-day characteristics of planning practice are uncertainty, networks, connection, interdependence, and survival and development through adaptation and change (Morrison, 2005).

These new key words all apply to contemporary large-scale, long-term urban renewal processes, which are complex and uncertain and take place in networks of interdependent partners. Urban renewal projects are complex because many actors are involved, the goals and strategies of these actors can change over time, and contextual factors (such as the housing market, residents´ wishes, the political direction) change constantly. This creates a lot of uncertainty in urban renewal; uncertainty about knowledge and values (substantive uncertainty), uncertainty about the intentions and strategies of the parties involved (strategic uncertainty), and uncertainty about when, where and by whom decisions are made (institutional uncertainty). (Koppenjan and Klijn, 2004)

The high level of uncertainty of urban renewal processes means that there are new demands for the way the planning processes are organized, and the application of knowledge, plans and designs in decision-making. Several authors emphasize that *learning* is of vital importance for successful planning processes that are complex and uncertain (e.g. Faludi, 2000; Korthals Altes, 2002; Klijn, 2003; Van der Schaar, 2005). Learning in urban renewal networks helps to respond to changes regarding the content of urban renewal plans, the strategies of the parties involved, and the institutions in which the decision-making process takes place. Learning can be defined as the creation of knowledge that is applicable in the activities of the parties involved (Argyris and Schön, 1996).

Another reason for increasing learning in urban renewal stems from the idea that the management strategy for *knowledge work* is not top down control but knowledge management and the facilitation of learning (Weggeman, 2000). People working in the early stages of the urban renewal process are professionals that carry out knowledge work. Drawing up plans, making designs, decision making; these are knowledge intensive task. When the creation, sharing and application of knowledge during these tasks is increased, it can be assumed that the quality of the work is higher.

Studying urban renewal processes from a learning perspective is a relatively new approach. A limited amount of studies has been done that have a strong relation with the topic. Examples are Goldfarb's study on evaluation of urban renewal programs that takes 'learning by doing' into account (Goldfarb, 1975), Healy's study on the kinds of knowledge used in planning practice (Healey, 1992) and Van Herzele's study on the use of local knowledge in planning processes (Van Herzele, 2004).

However, we are quite a few steps away from a cohesive body of theoretical and empirical work that focuses on learning in urban renewal. Therefore, several literature themes must be combined to create a framework suitable for the analysis of learning processes in urban renewal.

This paper is part of a research project that aims at designing a process design for enhancing learning in the planning phase of urban renewal processes, resulting in an improved quality of decisions. The main research question of this research project is the following: How can learning – the development, sharing, application and evaluation of knowledge - in urban renewal networks be enhanced in the planning phase of urban renewal processes in order to improve the quality (the extent to which the decisions are based on the knowledge available in the network) of decisions? In this paper, a first process design for enhancing learning in the early stages of urban renewal is developed by analysing several theoretical themes. In a later stage of the research project, this process design will be complemented and refined through case study research and expert panel testing.

In the next paragraph, the urban renewal policy in the Netherlands is briefly introduced. After that, the uncertain and knowledge intensive character of urban renewal processes is described. Then, learning is introduced as an answer to the uncertain and knowledge intensive character of urban renewal processes. Subsequently, it is explained what a process design is, how a process design can be developed and what its' value can be. Then, several theoretical elements are presented with which a first version of a process design for learning in urban renewal is composed. At the end, conclusions are presented and the further research phases are introduced.

URBAN RENEWAL IN THE NETHERLANDS

In Dutch national policy documents, urban renewal is defined as physical and social actions in urban areas focused on improving liveability and safety, promoting sustainable improvement of quality of dwelling and environment, reinforce cultural qualities and social cohesion, improvement of the accessibility, augmentation of the quality of the public space or otherwise structural improvement of the quality of the urban area (Law on Urban Renewal, Wet Stedelijke Vernieuwing, 2000). To finance the physical aspects, an Investment Budget for Urban Regeneration (Investeringsbudget Stedelijke Vernieuwing, ISV) has been created. Urban regeneration is primarily a task for municipalities and other local players such as housing associations and welfare institutions. In order to receive money from the Investment Budget for Urban Regeneration, these local partners must reach agreement on the formulation of a development programme and subsequently work together to realize the implementation of the programme.

This research focuses on physical measures (demolishing, improving, rebuilding dwellings) in post war neighbourhoods. Most of the pre-war districts in Dutch cities have by now already been renewed. In many districts built in the post-war period in Dutch cities however, houses no longer meet our modern standards and social problems such as criminality and joblessness are growing. These problems concern post-war neighbourhoods that consist predominantly of social housing owned

by housing associations. The typical dwelling type in these neighbourhoods is a four-storey apartment block built in the 1950s and 1960s. (Korthals Altes, 2005)

The goals for urban renewal that were set at a national level are not being met. Korthals Altes (2005, p. 298) states, "*The process is stagnating and failing to meet the high government ambitions for changing the urban fabric, especially in post-war apartment block neighbourhoods".* Although the ambitious goals put forward in the national policy documents were brought down to a more realistic level (Remkes, 2002), it remains difficult to fulfil the still sizeable task. Important causes for delay in the urban renewal processes are the increased complexity of the planning process and planning procedures (Taskforce Woningbouwproductie, 2002), changing relations between the parties involved and communication problems (Wassenberg eds, 2002).

These delaying factors have a relation with a shift that took place in the relations between the actors involved in urban renewal. In recent years, many authors have paid attention to important changes in the roles and positions of key actors in the field (see, e.g., Andersen & Van Kempen, 2003; Blanc, 2004; Ball & Maginn, 2005). In the Netherlands, as well as in several other Western European countries, there has been a shift from a situation of a central steering government towards more horizontal cooperation in a network of public and private partners. Korthals Altes (2002, p. 1441) states that the public sector is *"playing a more active role in interactions with non-state sectors and is no longer the centre of decision-making"*. The position of the municipality changed from the central actor that is able to steer other parties hierarchically and financially, to one of the players in a network of mutually dependent parties with more or less horizontal relations (Klijn 1996; Klijn and Koppenjan, 2004).

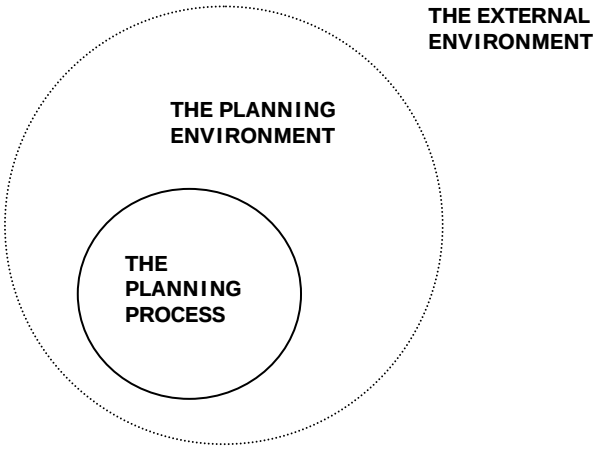
URBAN RENEWAL: UNCERTAIN AND KNOWLEDGE INTENSIVE

Urban renewal processes are highly uncertain, as was already briefly explained in the introduction. Following Abbott (2005:238), I define uncertainty as follows: "*Uncertainty is a perceived lack of knowledge, by an individual or group, that is relevant to the purpose or action being undertaken".* Uncertainty thus concerns a lack of knowledge and can be reduced by gathering additional information. However, understanding and reducing uncertainty is not sufficient for reaching agreement. As Forester (1989) stated: *"When uncertainties have been resolved as far as possible, value differences may remain about a plan"* (Abbot, 2005:246). The presence of value differences indicates that there is *ambiguity.* Ambiguity concerns a lack of clarity and agreement concerning values, goals and preferences (Noordegraaf, 1999). Gathering knowledge cannot reduce ambiguity, because it is unknown which knowledge is relevant. A process of argumentation and collective interpretation can reduce ambiguity. In complex planning processes, such as large-scale urban renewal processes, there are several types of uncertainty and ambiguity.

First, there is substantive uncertainty and ambiguity, which refers to lacking factual knowledge (uncertainty about facts, Klijn en Koppenjan 2005) and different perceptions of knowledge (ambiguity of conception, March and Olsen, 1976). Factual knowledge is lacking because the

environment of urban renewal processes changes continuously. It cannot be known what changes and developments the future holds. Examples are alterations in the national policy, economic developments, fluctuations in the housing market (external environment), and changing wishes of residents (planning environment), see Figure 1. Perceptions of knowledge differ because in our contemporary network society (Castells, 1996), in which values diverge greatly, it is not easy to define spatial or other qualities of urban renewal. In decision-making processes, different parties have different ideas about the quality of the desired results.

Figure 1. The planning environment



Source: Abbot (2005)

Second, there is strategic uncertainty and ambiguity, referring to the uncertain and changing position of parties in urban renewal networks and to the risk of parties altering their strategies. In urban renewal processes, many parties are involved none of which has a dominant position. They need each other to successfully realize urban renewal projects. However, these parties do not necessarily have the same interests, resulting in diverging problem definitions and preferred solutions. To make it even more complex, parties may change their strategies. Distrust between parties is often considerable, which hampers fruitful cooperation. March and Olsen (1976) call this ambiguity of intention.

Third, there is institutional uncertainty and ambiguity, resulting from the involvement of various institutional backgrounds, organisational levels and networks. (e.g. Klijn, 1996). Decisions regarding urban renewal do not arise in one place, but are made on different levels and in several policy fields. There are local organisations involved such as housing associations and municipalities, but also provinces and ministries. The physical policy sector plays an important role in urban renewal, but there are social partners such as health care institutions involved as well. This means that it can be rather unclear where and when decisions are taken. This complexity is increased by the ambiguity of participation (March and Olsen, 1976) that refers to the ever-changing compilation of people within networks and organisations due to people changing jobs.

Tabel 1. Classifications of uncertainty and ambiguity

Author	*Type of uncertainty and ambiguity*
Friend and Jessop (1969)	- Uncertainty in knowledge of the external planning environment - Uncertainty about future intentions in related fields of choice - Uncertainty about appropriate value judgements
Mack (1971)	- Uncertainty about the causal relations of basic internal dynamics in the local environment - Uncertainty about the external influences - Uncertainty about human behaviour and strategies - Uncertainty about chance events
March and Olsen (1976) (in Noordegraaf, 1999)	- Ambiguity of conception (actors do not know how to reach their goals) - Ambiguity of the history (actors do not remember what has happened) - Ambiguity of intention (actors do not know what they want) - Ambiguity of participation (actors vary constantly)
Klijn and Koppenjan (2004)	- Uncertainty regarding facts - Uncertainty regarding values - Strategic uncertainty - Institutional uncertainty
Abbot (2005)	- Environmental uncertainty; uncertainty *for* planning - Process uncertainty; uncertainty *from* planning

LEARNING AS AN ANSWER TO UNCERTAINTY IN URBAN RENEWAL

The high level of complexity of urban renewal processes, caused by the different kinds of uncertainty and ambiguity, has implications for the way planning processes are organized. Several authors have done suggestions on this topic. Van der Schaar mentions a need for a vision that is supported by the parties involved, a need for investment in mutual trust, and a need for process memory: *knowledge* that is shared and valued by all the parties involved about the initial ambitions and agreements, the adjustments in those and the reasons for these adjustments (Van der Schaar, 2005). Korthals Altes made a similar remark earlier (2002:1441): "*central urban regeneration programmes do not work well in complex urban renewal; there has to be a learning process – a process of interaction*".

Planning processes cannot simply be regarded as successful when the goals that were set at the start of the process are achieved. Faludi (2000) states that: "*(...) strategic spatial plans must be evaluated, not primarily in the light of their material outcomes, but for how they improve the understanding of decision makers of present and future problems they face. Plans perform their role if and when they help decision makers make sense of their situations, and so they need to be evaluated in this light*". Almost three decades before, in a study of manpower and urban renewal programs, Goldfarb (1975:281) already stated, "*... the outcomes of new programs are shrouded in uncertainty. In such an atmosphere, ex post program evaluation methods which take account of possibilities of 'learning by doing' can be extremely valuable*." Following these lines of reasoning, it is assumed here that successful planning processes are planning processes in which *learning* takes place.

In addition to uncertain, urban renewal processes are also *knowledge intensive*. Important resources for urban renewal processes are land (including raw materials), labour and capital, three separate production factors as defined by Marx (1839). A fourth production factor has become

increasingly important nowadays, for society in general as well as for urban renewal, namely *knowledge*. During the execution phase of urban renewal processes, which means the actual building process, capital, labour and land (including bricks and mortar) can be seen as the main production factor. In the planning phase however, when policy documents, plans and designs are developed, the main production factor is knowledge. Knowledge workers, such as urban developers, architects, neighbourhood economists, and policy-making officials, typically do the activities that are carried out during the planning phase. A knowledge worker is someone who has to learn relatively often and a lot to be able to fulfil his or her primary task well (Weggeman, 2000). Because the environment of urban renewal processes changes all the time, it is impossible to use the same plan or design over and over again and on every location. This means that urban renewal cannot become a routine job. Gathering, developing and applying knowledge is essential to make sure that plans and designs are tailored to what is needed and desired for a specific location at a specific moment.

For knowledge work, the top-down planning paradigm, in which managers make the decisions and employees carry out these decisions, is unsuitable (Weggeman, 2000). It is virtually impossible for managers to make the right decisions based on all the information they gather. The only alternative managers in knowledge intensive organisations have, is to rely on the loyalty and knowledge of their employees. This alternative boils down to knowledge management, which entails the stimulation of the development, the sharing and the use of knowledge.

To conclude, learning is of vital importance for urban renewal processes, based on the high uncertainty as well as on the knowledge intensive character of the work that needs to be done, especially in the early stages. Following Van der Knaap (1998), the goal of learning for processes of policy formation and execution, is to reach intelligent, reasonably priced and, above all, increasingly better solutions for complex problems in society. However, it is very difficult to measure the extent to which a solution is ‘good’, intelligent, or even reasonably priced. That is why the goal of learning for this research project is to increase the extent to which decisions made are based on the knowledge available (knowledge use), which in turn depends on the extent to which knowledge was developed and shared. For this research, the benefit of learning for urban renewal processes lies in the increased use of relevant knowledge in decision-making, which will have ‘better’ decisions as a result. Better in the sense that decisions are to a larger extent based on the relevant knowledge that is available in the network.

THE DEVELOPMENT OF A PROCESS DESIGN

The research project of which this paper is part, aims at developing a process design for increasing the quality of urban renewal processes through increased knowledge use during decision-making. The idea of designing a process design is borrowed from Van Aken (2005). He argues that in architectural design (amongst others), the organization or ‘design’ of the design process often receives too little attention and that if a process design is made at all, it usually concerns a previously used process that was copied or somewhat adapted. However, as Van Aken argues, for complex, large-scale, knowledge

intensive design processes a more professional approach to process design is needed. In such design processes, potential mistakes are less likely to be corrected by face-to-face contacts and informal feedback. This applies to urban renewal processes, since many urban renewal processes are complex, large-scale, and knowledge intensive. Therefore, the methods Van Aken describes to develop a process design are used for the research project of which this paper is part.

To approach the design process more professionally, Van Aken promotes the development of prescriptive process models, or *solution concepts,* to be used in process design. With these solution concepts, *technological rules* can be developed. A Technological rule is defined by Bunge (1967:132) as '*an instruction to perform a finite number of acts in a given order and with a given aim*'. Technological rules have a logical structure. Van Aken explains that as follows: *'This logical structure is: if you want to achieve Y in setting Z, then do (something like) X. The core of the technological rule is this X, a general solution concept for a type of field problem. The remainder of the rule is a kind of user instruction for the solution concept, connecting it to an expected performance and a type of field problem, including indications and contra-indications.'* (van Aken, 2005a:389)

It is important to indicate that a technological rule does not guarantee a certain outcome, but it facilitates its achievement. For the process design of complex design processes, a technological rule is not an instruction to be followed unquestionably, but a general starting point that must be developed to suit the specific situation at hand. The *principle of minimal specification* should be employed; a solution concept should only specify what is necessary and restrain from excess details. Professionals in the field in question can use technological rules to design their specific design process, considering the specific problem in a specific setting at hand. People's actions are not determined by a solution concept; they have to internalize the concept and be motivated to design and manage their own specific activities according to it (Van Aken, 2005a; Van Aken, 2005b).

For the research project of which this paper is part, the relevant technological rule should be something like this: if you want to achieve increased knowledge use in decision making (Y) in large scale complex urban renewal processes (Z), then do - something like - improve the learning process (X). The desired outcome (Y) is a good quality urban renewal project, specified as increased knowledge use in decision making. The solution concept, X, improving the learning process, is very generally stated because the aim of the research is to develop that solution concept.

A first step towards the development of the process design is a review of existing research in search for relevant building blocks. This approach is called research synthesis, "*in which the results of a variety of field research projects are used to develop a broader range of technological rules for a certain design process problem and with more evidence on their performance than an individual research project can produce*" (Van Aken, 2005a:400). The second step is to further develop the process design through the method of the multiple case study. Three urban renewal processes are studied with a focus on learning, and in specific, the use of knowledge in decision-making. Successful and poor examples of knowledge use in decision-making are analysed in order to deduce insights for the process design. And because a technological rule should be *field-tested* which means that the rule has been tested in the relevant setting, the third step is to submit the process design to expert panel testing. Professionals in the urban renewal field will be involved in thought experiments with which

the process design is tested. Ideally, the process design is introduced and used in the actual field in question to test and refine it. Unfortunately, that is infeasible for this research project.

Technological rules must, in addition to field-tested, also be *grounded* which means that there is understanding of why the rule works or why the solution concept (X) produces a certain performance (Y). If it is understood why and how the rule works, indications and contra-indications can be given concerning the application of the rule in its specific field (Van Aken, 2005). In this research project, the grounding of the rule will be done through discussion with professionals in the field.

Besides the use of knowledge in decision-making, there are many more aspects that determine the quality of urban renewal processes. Examples are costs-effectiveness, satisfaction of all the stakeholders involved and timeliness. And there are many more influences on the quality of urban renewal processes than the amount of learning that takes place; such as the housing market, power-relations, and personal qualities of the people involved. However, as Van Aken states, testing on one specific performance indicator may give sooner insight than testing on a broad multidimensional one. A way to control for some of the other influences is to study several cases in extreme conditions, because in these conditions strength and weaknesses may show up more clearly.

TOWARDS A PROCESS DESIGN FOR LEARNING IN URBAN RENEWAL

In this paragraph, concepts from literature on knowledge management, organisational learning and policy learning are introduced. These concepts form important building blocks for the process design for enhancing learning in the early stages of urban renewal. A model that pictures learning as a cyclical process provides the backbone of the process design. A first version of a process design is presented for enhancing learning in the early stages of urban renewal, aiming at increased knowledge use during decision making. The model of learning as a cyclical process is supplemented with factors that have been found to enhance and factors that limit learning, based on a review of studies on organisational learning and on learning in policy networks. This first process design will be complemented and refined through future empirical research.

The author has already written a theoretical review of several strands in organisational learning theory such as policy-oriented learning, social learning theory, and knowledge management (Van Bemmel, forthcoming). This paper builds further on the insights resulting from that literature study, thus refining the theoretical framework. Here, the discussion of knowledge and learning is confined to the brief description of the main terms.

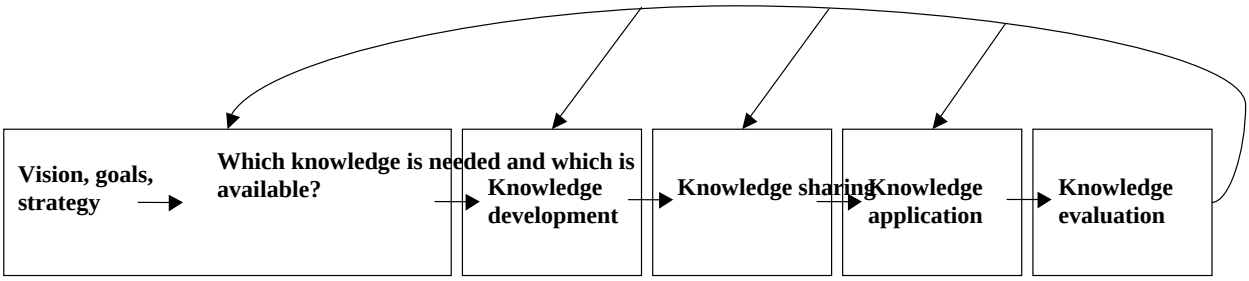
Knowledge can be defined as the – partly unconscious – capacity that enables a person to execute a certain task (Weggeman, 2000). Following Weggeman, knowledge is seen as a function of information, experience, skills and attitude. Information is created when data is given meaning, and data are symbolic representations of amounts, quantities, facts and opinions. Depending on a person's experience, skills and attitude, this person is able to create new knowledge when he or she comes across new information. Two types of knowledge can be distinguished: explicit or codified knowledge and implicit or tacit knowledge. Explicit knowledge can be expressed in formal language and can be

shared in the form of data, manuals and the like. Implicit knowledge is highly personal and hard to capture in forma language and documents. Implicit knowledge is rooted in actions, routines, ideals and values (Polanyi, 1958).

Learning means the enrichment of existing knowledge and the creation of new knowledge. There is growing consensus amongst contemporary theorists on organizational learning that learning is possible only when individuals are learning; organizations as such are incapable of learning (Senge, 1990; Simon, 1991; Weggeman, 2000). Simon explains this point of view as follows (1991): *"All learning takes place inside individual human heads; an organization learns only in two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have."* However, when organizations are viewed as collections of people that, to a certain extent, pursue the same goals, then there can be individual and collective learning processes *within* these organizations.

There are six steps that make up organisational learning processes (Weggeman, 2000): formulation of the vision, goals and strategy of the organisation; determine which knowledge is needed and which is available to realise the strategy; the development of knowledge; the sharing of knowledge; the application of knowledge; and the evaluation of knowledge.

Figure 2. Learning as a cyclical process



Source: Based on Weggeman (2000:152)

To investigate how new knowledge is *created* in urban renewal networks, can be done by looking at for instance doing research, hiring experts, or experimenting. The sharing of knowledge is studied by mapping which people share which knowledge with whom and why. The use of knowledge is examined by looking at to what extent the knowledge available in urban renewal networks is actually used when decisions are made. The evaluation of knowledge is considered by looking at the occurrence of moments of reflection, like evaluation meetings.

The learning organisation ideal provides helpful insights for improving performance in policy networks; however, a range of features specific for policy networks must be reckoned with (see also Smith and Taylor, 2000). These features are, amongst others, ambiguity over the problem definition and ambiguity over purposes and means, as described earlier. This means that learning in policy networks also involves a collective *interpretation process* during which the policy problem is interpreted and *ambiguity* is reduced. Different actors have different values, perceptions and interest,

which means that learning in urban renewal might be conceptualised as a quest for a joint vision, as well as the creation, sharing, use and evaluation of knowledge.

A method for learning, described in the literature on policy learning, which takes ambiguity into account is 'joint fact-finding' which entails the creation of meaningful knowledge on the basis of a process of interactive knowledge construction and –production. A joint fact-finding process *"... extends the interest-based, cooperative efforts of parties engaged in consensus building into the realm of information gathering and scientific analysis. In joint fact-finding, stakeholders with differing viewpoints and interests work together to develop data and information, analyse facts and forecasts, develop common assumptions and informed opinions, and, finally, use the information they have developed to reach decisions together"* (Ehrmann and Stinson, 1999:376, quotation by Edelenbos et al. 2004:343).

Another solution for ambiguity is found in integration of different interpretations and 'frame reflection'. As has been said, information sources are often spread among various actors. Finding satisfactory solutions for complex problems such as in urban renewal needs bringing together information and resources. This is especially the case in the situation of complex, large-scale urban renewal processes because there are often no standard routines and proven solutions on which actors can base their (joint) actions. Instead of a conflict situation where information is used as mean in the value struggle that is going on, one would need a situation of a more or less shared body of knowledge on which actors can base their discussion about possible solutions. (Rein and Schön, 1992; Schön and Rein, 1994). Therefore learning processes are needed in which actors review their strategies and interpretations and incorporate new additional information in their frames. (e.g. Buuren, A. van, 2005:8).

Some factors have been found in other research projects that enhance and limit learning. Beneath here, these are placed in a matrix thus creating a first version of a process design for increased learning in urban renewal (Table 1). The first column indicates the steps in the learning process. The second column includes the questions to be answered for each learning step in order to describe how learning takes place in urban renewal processes. The third and fourth columns present factors that can be expected to respectively stimulate and hinder learning, based on existing literature. It lies outside the focus of this paper to extensively describe the factors in the table beneath here. The reader that wants to know more is referred to the references indicated.

Table 1. Building blocks for a process design for learning in the early stages of urban renewal

Learning steps	Case study questions	Supporting factors (from literature)	Hindering factors (from literature)
Collective vision, goals strategy / determine which knowledge is needed	- How were the vision, goals and strategy of the network agreed upon? - Was a collective strategy for information gathering formulated?	- overarching goals that provide a sense of direction for the network's learning process (Child and Rodrigues, 2003) - combining goal seeking and goal realisation (Van Buuren, 2005) - problem structuring process (Edelenbos et al. 2004) - jointly agreed research design (Van Buuren, 2005; Edelenbos et al. 2004)	- differences in frames (Van Buuren, 2005)
Knowledge development, joint fact finding	- Which knowledge is developed internally? - Which knowledge is bought? - Which knowledge is developed with third parties?	- employees committed to network goals (Weggeman, 1997) - balance between safety and threat (Van der Knaap, 1998) - use of external knowledge (Van der Knaap, 1998) - top managers' behaviour: learning role models (Smith and Taylor, 2000; Schein, 1997) - line managers as coaches (Smith and Taylor, 2000) - project teams with complementary competencies and knowledge-sets (Child and Rodrigues, 2003) - decentralized, horizontal organisation structure (Gibson, 1997; Castells, 1996)	- over-emphasis on individual learning (Vince, 2000; Dilworth, 1996) - fixation on formal training (Dilworth, 1996) - blame culture (Vince, 2000 p.40) - lacking of sufficient critical information (Van der Knaap, 1998) - blindness to new information / tunnel vision (Van der Knaap, 1998; Watkins and Marsick, 1993) - vertical bureaucratic structure (Child and Rodrigues, 2003)
Knowledge sharing	- Which knowledge is shared and with whom? - Which knowledge needs to be shared and which doesn't? - Which knowledge do people keep to themselves? - Is there a shared body of knowledge that parties	- trust (Van Buuren, 2005; Cross and Prusak, 2003) - pursuing negotiated knowledge (Edelenbos et al., 2004) - links between knowledge production arenas (Edelenbos et al. 2004) - room for novel communication patterns (Van Buuren, 2005) - strong ties: strong relationships ease communication (Hansen, 1999) - group identity: people are likely to share knowledge within their social group (Child and Rodrigues, 2003)	- knowledge struggle and report wars (Van Buuren, 2005) - technocratic approach to knowledge (Fisscher, 1990; Edelenbos et al., 2004). - groupthink and defensive routines (Van der Knaap, 1998) - autocratic leadership styles (Dilworth, 1996) - knowledge gap is too wide to bridge, on individual, team or organisational level (Cohen and Levinthal, 1989) - power differences (Cross and Prusak, 2003) - a culture where possession of knowledge means power

	can base their discussions about possible solutions on?	- integrating frame of reference (organisational identity) to ease inter-group knowledge exchange (Child and Rodrigues, 2003) - Psychological safety: little fear of failure and personal harm (Edmondson, 1999)	(Szulanski and Cappetta, 2003) - doubts about the validity of the knowledge (Szulanski and Cappetta) - lack of respect for and perceived credibility of the knowledge source (Szulanski and Cappetta, 2003) - lack of motivation of the knowledge recipient, "not invented here syndrome" (Szulanski and Cappetta, 2003)
Knowledge use	- How is the knowledge available in the network used when decisions are made? - To what extent is the relevant knowledge selected from the non-relevant knowledge (information overload)?	- links between knowledge production and policy-making (Edelenbos et al. 2004) - links between the network and the home-organisation (Van Buuren, 2005) - Local availability of knowledge: people usually get knowledge from their organizational neighbours (Cross and Prusak, 2003).	- knowledge production in separate networks (Edelenbos et al., 2004) - incompleteness of information / not knowing where the knowledge is located (Cross and Prusak, 2003) - Asymmetry of knowledge (abundance in one department and shortage somewhere else) (Cross and Prusak, 2003) - Satisficing: settle for less than optimal knowledge (March and Simon, 1985) - Lack of retentive capacity: difficulties during the use of new knowledge lead to discontinuation of its use (Szulanski and Cappetta, 2003)
Knowledge evaluation, frame reflection	- Are there moments of reflection, of looking back? - Are side paths explored for future projects? - Is the knowledge that is created in the process used to revise the goals?	- frame reflection (Rein and Schön, 1992; Schön and Rein, 1994) - validation of knowledge / peer review (Edelenbos et al. 2004; Weggeman, 1997)	- tensions between the network and the home practice (Van Buuren, 2005) - lacking archives or administrative organisation (Van der Knaap, 1998)

CONCLUSIONS

In this paper, it has been argued that there are two reasons for stimulating learning in urban renewal networks. First, parties cooperating in networks to realise the renewal of urban neighbourhoods have to handle the uncertainty and ambiguity that is inherent to urban renewal. In a collective learning process, the uncertainty and ambiguity can be made more manageable. Second, many of the tasks that need to be carried out during the planning phase of urban renewal processes can be labelled 'knowledge work'. With learning, the quality of knowledge work can increase. Therefore, the research project of which this paper is part aims at developing recommendations for increased learning that urban renewal professionals can use in their work.

Many research projects aim at developing recommendations for practice. However, the use of scientific knowledge in business or government organisations is often disappointingly low (Van Aken, 2005). For this research a conscious choice has been made for a research method that aims specifically at creating knowledge that is of practical value for professionals. The method of developing a *process design* has been introduced for this reason, and the first step towards a process design for learning in urban renewal has been taken by combining a cyclical learning model with factors that may enhance and limit learning.

Analytically, several learning phases can be distinguished in learning processes in urban renewal networks; the collective creation of knowledge, the sharing of knowledge within the network, the use of the knowledge in decision-making and, finally, the evaluation of the knowledge developed. These phases constitute a cyclical learning process. For each of these learning phases, stimulating and hindering factors have been listed, based on existing research. Among these factors are aspects that require specific attention in the context of urban renewal, such as the *collective* formulation of the vision, goals and strategy, knowledge acquisition through *joint fact finding* and continuous *frame reflection*.

Through case study research, the process design for learning in urban renewal will be tested and adjusted. The learning process in three urban renewal processes will be analysed through interviews, observation of process meetings and policy document analysis. It is assumed that the incentives and barriers that have been discovered by other researchers are valuable for influencing learning processes in general. In the urban renewal context, it will be assessed which of these enhancing and limiting factors can be recognized. As a final phase of the research project, the developed process design will undergo expert panel testing to detect potential errors and aspects that need modification.

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