Facilitating network (inter-organizational) learning:
a relativist/pragmatist perspective on participatory policy analysis

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Abstract

In today's network society policy analysis is more and more implemented by means of participatory approaches and methods. This is induced by the fact that power and knowledge are widely distributed among various groups of network actors (stakeholders). The network characteristics of our (western) societies (Castells, 1996) more or less force us to look at policy analysis from a more relativist – pragmatist perspective. In this paper we want to investigate in the role of participatory policy analysis in a multi-actor, network environment and the learning processes that emerge from that.

To do so, we will subsequently elaborate on the following components of our narrative that is largely framed by the philosophy of relativism. First we discuss the characteristics of the network society and their implications for policy oriented research, such as participatory policy analysis. Second we go into the concept of policy analysis and participatory policy. Third we look at the concept learning itself by elaborating on definitions of learning and on the specific type of learning that emerges in participatory policy analysis: policy oriented learning. Fourth we link up the characteristics of the network society as social environment to the concept of learning by considering the concept of situated cognition (Bredo, 1994; Elkjaer, 1999). And fifth, we apply this concept to a case study on spatial planning issues in which participatory policy analysis was implemented in a (local) network environment, leading to learning processes between the stakeholders involved.

Key words: participatory policy analysis, network learning, network society, relativism/pragmatism, situated cognition.

Suggested track: F or J.

1. Characteristics of the network society
In this paragraph the contextual environment of participatory policy analysis is discussed. The contextual environment is shaped by what we now commonly call the network society (Castells, 2000). This paragraph briefly describes the characteristics of 'the network society'. It is our proposition that the mere concept of networks (and the acknowledgment of their existence) calls for a relativist – pragmatist perspective on policy making and policy analysis. As a consequence, we accept a relativism/pragmatism as a philosophical framework for this paper.

'The Rise of the Network Society' (1996/2000) is the first volume of the epoch-making trilogy 'The Information Age: Economy, Society and Culture' with which the Spanish sociologist Manuel Castells makes an admirable attempt to analyze and characterize the current state and future developments in today's (western) capitalist societies.

Castells draws attention to the characteristics of our society that has developed into a global network of economic, social, cultural and technological relations. In his view, today's network society is materialized in the following entities that are, in my view, simultaneously cause and effect, in the sense that they have initiated, currently sustain, and are likely to further develop the network nature of our society. These entities are: 1) the information technology revolution, 2) the new economy, 3) the network enterprise, 4) the transformation of work and employment, 5) the culture of virtual reality, 6) the space of flows and 7) the concept of 'timeless time'. Castells (2000) argues that the concept of networks leads to new organizational structures in society: 'networks constitute the new social morphology of our society, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power, and culture'. He notices that networks as entities of social organization exist for quite some time but became fully materialized after the comprehensive development and deployment of information technology. Castells argues that the mere thinking in network terminology and acting upon it accordingly, has a greater influence on human life than what is expressed through these networks. In his view, 'the power of flows takes precedence over the flows of power'. Or in other words, the presence of social infrastructures – i.e. societal networks – has greater influence on society that what 'runs through these infrastructures' – i.e. interests and power –. From this it is likely that presence or absence in specific networks as well as the competition of networks among each other, largely determine societal dynamics and change. So in conclusion, the network society as such is characterized by 'the pre-eminence of social morphology over social action'.

Castells (2000) speaks of a transition from the 'space of places' to the 'space of flows' that is taking place in the transition form traditional (hierarchical) societies to network societies. An interesting question is whether we can recognize a similar transition in organizational life, and thus speak of the space of interactions ('flows') instead of the space of organizations ('places')? In other words, are networks denominated by the interactions / interconnections they represent, more than by the 'nodes' they interconnect? The character of the network is not defined by the connected nodes but by the connections themselves. The development, direction, decline and deterioration of the connectors is the driving force of network dynamic. The reasons for certain developments, directions and deterioration of connections are not deliberate, coordinated or managed nor can they be predicted in a convincing and meaningful manner. Chaos and disorder seem to have become organizational guidelines. As a consequence, disorganization may be accepted as the organizational characteristic of networks. This is perhaps most convincingly identified by the denomination of societal networks as 'rhizome' (Deleuze & Guattari, 1977; Frissen, 1999). This disorganized structure of society is represented by non-linearity in (policy) processes, non-hierarchical and instable structures and an increasing sense of non-predictability and non-reliability. As a consequence, (hyper-) fragmentation and contingency prevail (Frissen, 1999) and should be accepted as 'business as usual' for (policy) organizations and individuals.

The concept of policy networks
The focus of this paper is on participatory policy analysis. Therefore we will look into a specific type of networks in which participatory policy analysis is likely to take place: policy networks. The concept of policy networks is addressed by considering various definitions of this concept. Based on Börzel (1998) and Mayntz (1993a) we can safely argue that policy networks tend to reflect a changed relationship between state and society. There no longer seems to be a stringent division between the two. Instead of emanating from a central authority, policies are in fact constructed in processes that involve a plurality of both public and private actors. In this respect, the concept of policy networks 'signals a real change in the structure of the polity' (Mayntz, 1993a).

Various other authors have attempted to define this changed relationship between state and society and its consequences for the policy process. In the following, a collection of definitions is listed. Börzel (1998) offers the following definition: 'a set of relatively stable relationships which are of non-hierarchical and interdependent nature linking a variety of

actors, who share common interests with regard to a policy and who exchange resources to pursue these shared interests acknowledging that co-operation is the best way to achieve common goals'. Klijn, Van Bueren and Koppenjan (2000) suggest the following definition: a complete set of relationships between interdependent actors who group themselves around a certain policy problem or policy programme'.

Klijn and Teisman's definition (1992) perhaps points most accurately to the volatility and fluidity of today's network society when they refer to policy networks as 'changing patterns of relations between interdependent actors that group themselves around policy problems or clusters of resources and that are shaped, maintained and changed by series of decision making games'.

Policy networks are composed of and initiated and maintained by actors. These actors are all involved in the (public) policy process, in the sense that they are responsible for its outcome, for its organization and processual design and the attribution and dispersion of policy objectives and resources. This responsibility leads to interdependency among the networking actors. Interdependency is another idiosyncratic feature of policy networks. In pursuing their responsibilities for substantial and processual components of the policy process, actors will have to engage in mutual relations with one another. These relationships are necessary because of the network character of today's society, which exceeds the span of control and influence for individual policy actors.

With these introductory remarks in mind, it is our proposition that the mere acknowledgment of the network concept, accepting its characteristics as starting point for governance and trying to materialize them into new approaches for policy making and policy analysis, is enough reason for accepting a relativist - pragmatist perspective. The 'networkification' of our society has serious consequences for the process of policy making. This is becoming more and more 'a network activity'. And as a consequence, the analytical activities to support policy making – i.e. policy analysis – will have to be tailored to these 'network activities', in which dealing with fragmentation, contingency, chaos and continuous change, is the central challenge.

2. Participatory policy analysis as postnormal science
As we see in the everyday policy making practice, the gathering of data, collecting information and generating knowledge to support the policy process is a vital part of the policy process. The research activities that are enrolled to analytically tackle what Geurts and Vennix (1989) refer to as 'orientation problems' are usually referred to as 'policy analysis'. An extensive number of policy scientists have studied the nature of policy analysis (here after abbreviated to PA) and have sought for ways to make this (more) effective and efficient.

Some definitions of policy analysis
As a first step to introduce the concept of PA, the definition of Lasswell (1971) for 'policy science' is helpful. Policy science is aimed at producing (generating) and applying knowledge about and in policy. Dunn (1994) defines PA 'as an intellectual and practical activity aimed at creating, critically assessing, and communicating knowledge of and in the policy-making process. The process of PA has five interdependent phases that together form complex, nonlinear cycles (or rounds) of intellectual activities. These activities are ordered in time and embedded in a policy-making process that is complex, nonlinear and essentially political. Next to this extensive definition, Dunn (1994) offers a more to the point description of PA:

> *an applied social science discipline that uses multiple methods of inquiry in context of argumentation and public debate, to create, critically assess, and communicate policy-relevant knowledge.*

Cohen and Lindblom (1979) speak of Professional Social Inquiry (PSI) that is 'both social science narrowly conceived and those many other forms of professional knowledge allied to social science but not properly or entirely scientific'. Dunn (1994) perceives PA as a social science with the unique characteristic of being able to mediate between and evaluate multiple

scientific disciplines, within the natural scientific and the social scientific domain. Moreover, PA is a means to ex ante evaluate (but ex durante and ex post also apply) the relevance of various knowledge contributions to structuring the policy problem, its alternatives and the way the alleged problem solving policy could be implemented. In addition, PA is aimed at combining both scientific and non-scientific knowledge, both practical and theoretical insights in a context of societal debate and political struggle.

From policy analysis to participatory policy analysis
Despite of the broad, widely adopted characteristics, the concept of PA became subject to criticism because it was regarded as a somewhat traditional approach to generating policy-oriented knowledge (see e.g. Mayer, 1997; Heyne, 2000). The definitions of PA mentioned above did no longer apply to new forms of policy-making. The policy process was no longer primarily reserved for governmental agencies and institutions, but became more and more a playing ground for other, non-governmental actors. This development had to have consequences for PA, if only by allowing these non-governmental actors to contribute to policy-oriented knowledge generation and application. As a consequence, other forms of knowledge (than scientific or policy oriented) had to be accommodated in PA, leading to new processes and methods. To characterize the emerging criticism on traditional policy analysis Mayer (1997) identifies five dilemmas or challenges with which the 'traditional' approach to PA is nowadays faced:
1. Scientism vs. lay knowledge;
2. Decisionism vs. multi-actor policy-making;
3. Limited utility vs. scientific consensus;
4. Disciplinarity vs. scientific consensus;
5. Technocracy vs. democracy.
From these five dilemmas the conclusion can be drawn that there are compelling reasons for PA to be more open to participation from other than the traditional actors, because of:
- The involvement of alternative sources of knowledge;
- The use of alternative types of knowledge;
- The involvement of those who will be affected by the policy decisions;
- The involvement of other actors who are vital to the implementation of the policy (or at least, are vital to avoid obstruction to the implementation).

However in contrast with Mayer (1997) who argues that a more participatory approach to PA must not result in 'anything such as relativism or postmodernism', we argue that it is not possible to prevent this from happening. On the contrary, we think that it is desirable to accept a postmodern view on PA for its further advancement. For this argumentation, we will use the same words as Lasswell (1971) was in constructing the main principles to the traditionalist approach to PA. These words are contextualized (context-oriented), problem oriented (problem-driven) and diversified and multi-discplinairy (pluralistic).
Essentially, PA should be contextualized, using the characteristics of the (historic) context of the problem situation and problem owners (actors involved) to shape the research process. Thus, standard, blueprint approaches are ruled out and pragmatic, context oriented and jointly accepted processes are designed and implemented. The problem orientation of PA is obvious and connects strongly to remarks above on the contextualization of PA. Being problem oriented, PA includes assessing the perspectives on the problem at hand, as well as the problem owners concerned. Moreover, the problem orientation refers to the need for action, by taking little and acceptable steps towards problem solution. PA should be diversified and multi-disciplinairy, using methodologies that are based on the recognition that PA is a social science. Furthermore, pragmatism is the guiding principle in jointly choosing, designing and implementing methods for knowledge production. In other words, 'anything goes' in methodological respect, as long as it is effective to reach the results required and is agreed upon by the actors involved (the problem owners).

All together, the criticism on traditional approaches adds up to a more pragmatic way of organizing and conducting PA. A relativist, postmodern and pragmatic approach to research activities that leads to knowledge for supporting the policy process, is discussed in the next paragraph.

Relativist – Pragmatist perspective on policy analysis
The previous considerations regarding policy analysis lead to a relativist / pragmatist view on policy oriented scientific research. Most important reason to look at policy analysis in a relativist manner derives form the assumption that, ultimately, policy analysis is a research activity that belongs to the domain of the social sciences. Of course, in policy analysis, natural sciences play an important role, but nevertheless this type of knowledge will have to be translated in options for action, for example in a framework of 'who does what, when and how'. The conclusion that policy analysis and policy science are social sciences leads to a relativist / pragmatist approach towards knowledge that is regarded as being created and applied in a context of social interaction. This relativism – pragmatism approach stems from:
1. The abstinence of the idea of the mirror of nature (Rorty, 1979).
2. The fallibilistic nature of the social-scientific knowledge (Hoppe, 1998).
3. The reflexive nature of social sciences (Frissen, 1999; Giddens, 1994).

The relativist perspective on science and its contributions to policy processes is captured by the concept of 'postnormal science' (Funtowicz and Ravetz, 1993) and also by the concept of mode 2 science (Gibbons et al, 1994). These concepts advocate a socially justified and reflexive way of science that acknowledges the social context of research and in which other non-scientific experts are involved. Funtowicz and Ravetz argue that in today's society science has to consider fundamental uncertainties in policy issues on societal risks and environmental challenges. Postnormal science must be able to deal with the abstinence of traditional dichotomies of facts vs. values and knowledge vs. ignorance. Applied science, professional consultancy and postnormal science connect to policy situations that are characterized by an increasing manifestation of uncertainty and policy interests (In 't Veld & Verhey, in: RMNO, 2000). As more complex uncertainties emerge, controlling the scientific quality of research activities is subject to evaluation by a broader group of stakeholders. It is desirable that this is a pluralistic group composed of scientific experts as well as non-scientific experts.
In postnormal science, phrases like 'negotiated knowledge' (Frissen, 1998) and 'serviceable truth' (Jasanoff, 1990) have become metaphors for the relativist way of dealing with policy oriented knowledge. Negotiated knowledge is knowledge that is the result of negotiations between scientists among each other, between scientists and stakeholders involved and between stakeholders involved among each other. Jasanoff (1990) advocates abandoning the strict of boundary between science and policy because it proves to be fruitful when stakeholders join the negotiations on the choices to be made in a process of policy analysis. Or as Jasanoff puts it: '…scientific advisory proceedings – no less than administrative proceedings of non-technical kind – are most effective in guiding policy when they foster negotiations and compromise'. However, this does not mean that science and policy should entirely assimilate when engaged in a process of policy analysis. Even negotiated knowledge should live up to the qualification of 'good science' and must not be compromised by political negotiations (Van Eeten & Ten Heuvelhof, in: Hoppe & Peterse, 1998). Serviceable truth is 'a state of knowledge that satifies tests of scientific acceptability and supports reasoned decision-making, but also assures those exposed to risk that their interests have not been sacrificed on the altar of an impossible scientific certainty' (Jasanoff, 1990). This citation not only refers to the production of useful, serviceable expertise (abandoning the concept of unshakable truths) but also to sustainability and robustness, as this type of knowledge is more proof against the deconstructive efforts of (opposing) actors and therefore, plays a more lasting role in the policy debate.

The relativist perspective as elaborated in this interlude indicates the favorability of a crossover in scientific, advisory, lay and other knowledge to support the policy process. However, this crossover does not just apply to the knowledge domain of the science – policy duet, in the sense that science represents knowledge and policy represents striving / acting. The crossover also refers to the mechanism in which scientists become policy makers and policy makers become (applied) scientists. Weinberg (1972) speaks of PA as co-production between science and policy.

Accepting a more relativist – pragmatist perspective on policy analysis by considering it to be 'postnormal science', can be materialized through participatory approaches.
Dunn's definition of policy analysis is modified in a more participatory direction by Geurts and Mayer (1996), who define participatory policy analysis (here after PPA) as:

> *An applied social science discipline, which uses multiple methods of inquiry, argument and process facilitation, to assist a pluriform set of stakeholders in a policy network, to explore and exchange in a direct interaction with each others their different mental maps regarding values, definitions, causes and solutions of problems and to develop and test as effectively as needed a shared and robust policy theory of an issue. The ultimate goal is to improve the problem solving capacity of the individual stakeholders and the policy network as a whole.*

With this definition in mind, it is our proposition that it is possible to avoid representationalism in policy analysis, to accept the processual character of policy analysis within policy networks and to deal with its reflexive nature. This will be illustrated in the case study.

3. Learning in participatory policy analysis
In the previous paragraph I have explained the concept of participatory policy analysis. In addition I have briefly pointed to the supposed contribution of participatory policy analysis to learning processes. It is our assumption that learning in participatory policy analysis involves 'both actors (individuals and organizations) as well as a social environment (neighborhood, society, networks) who, together, produce, exchange, apply and renew knowledge for making contributions to policy processes'.
To determine this assumed contribution more precisely, in this paragraph we will look into the concept of learning. In addition we will discuss the type of learning that emerges in participatory policy analysis: policy oriented learning (Verbeeten, 1999). In the concept of policy oriented learning specific attention is directed at the interacting components of individual and social (group) learning. The connection between social learning, as a driver for policy oriented learning, and individual learning will be discussed with reference to theories of Elkjaer (1999), Lave and Wenger (1991) and Brown and Duguid (1991). The individual dimension of learning brings us back to the philosophical viewpoint that frames this paper, the relativist – pragmatist perspective.

Some definitions of learning
Learning is a frequently used term to point at processes of giving meaning to events in one's environment, knowledge processing, alteration of attitude and behaviour and the interaction between people and organizations. Saljo (1982) indicates that individuals may use more than one conception in their description of what they have learned at different moments in times. Saljo divides these different conceptions into five types of learning: 1) gaining bits and pieces of knowledge, 2) memorizing, 3) applying knowledge, 4) understanding, and 5) understanding in relation to the real world.
These conceptions all point at different attributions that are assigned to learning; some emphasize the knowledge processing character of learning, others point at the social and interactionist nature of learning, and still others go into the action component of learning. McGill and Beaty (2001) distinguish the cognitive (knowing), the conative (doing) and the

affective (feeling) aspects of learning and point to the importance of considering the relationship between the three.

A complicating factor in defining the concept of learning is that learning is often used in a metaphoric way to describe and point out these 'vague' processes in which is knowledge is acquired, processed and applied. This is supported by Barker (1997) who states that learning is a hypothetic construction. The actual learning process that is taking place in the human brain is not observable but the consequences such as behavioral changes are. As a consequence of the impossibility of observing learning, a large number of definitions and interpretations of what learning exist. Each of them point at a specific feature of the wide variety of attributions that are assigned to the concept of learning. To give an idea of how learning is described, I list some of these definitions. Burns (1995) indicates that learning is a relatively permanent change in behavior with behavior including both observable activity and internal processes such as thinking, attitudes and emotions. Closely related definitions are that of Barker (1997) who understands learning as 'a more or less permanent change in behavior resulting from experiences with an environment' and of Guthrie (1942) who claims that learning must be considered as 'the alteration in behavior that results from experience'. These definitions are psychologically colored and tend to be framed on the behaviorist perspective on learning. Each definition emphasizes that 'something happens to an individual's behavior when learning takes place'. The psychologically colored definitions tend to emphasize the behavioral aspect of learning. However, from Saljo's elaboration, we find that there's more to learning than just 'change in behavior'. Learning also involves knowledge-related or cognitive aspects as well as social aspects derived from interactions between individual and (social) environment. The cognitive aspect of learning is addressed by Lewin's definition (1954): learning is a change in cognitive structure. Hilgard and Bower (1975) point to the social aspect of learning. According to them learning is 'the change in a subject's behavior to a given situation brought about by his repeated experiences in that situation'.

Policy oriented learning
After elaboration of the concept of learning, the next question is what type of learning emerges in the processes of PPA? Learning in PPA emerges while pursuing certain contributions to policy processes. Thus learning in PPA can be considered as policy oriented learning. This specific learning concept is examined in this paragraph.
Policy oriented learning is closely related to organizational learning if one perceives policy oriented learning as organizational learning involving policy actors. That is, organizations and individuals involved in policy processes learn from each other, by actively interacting in the struggle for influence and power in the public domain. Moreover, since the policy process in many cases is not restricted to one organization, policy oriented learning may be looked upon as an 'inter-organizational' concept. Various authors have addressed the concept op policy oriented learning. Verbeeten (1999) has made an inventory of definitions of policy oriented learning:

- A selfmodifying communications network (Deutsch, 1966);
- Relatively enduring alterations of thought or behavioural intentions that result from experience and that are concerned with the attainment (or revision) of policy objectives (Sabatier, 1993);
- The relatively enduring change or incorporation of knowledge and perceptions in policy beliefs which in turn contributes to the policy-making process (Eberg, 1997);
- A process in which policy actors try to improve public policy measures, policy objectives and underlying normative assumptions. They can do so by detecting and correcting perceived imperfections (Van der Knaap, 1997);
- This combination of adaptive management and political change is social learning (Lee, 1993).

Verbeeten (1999) defines policy oriented learning as 'the interactive process in which an increase of knowledge and insights results in changes in the definition of the policy issue, the policy objectives and/or the policy instruments. The new policy has at least an equal degree of legitimacy as the replaced policy'. The definition of Verbeeten is largely inspired by the two functions that Glasbergen (1996) attributes to policy oriented learning. First, (policy oriented) learning can contribute to strengthen the policy theory. This function focuses on the substantial-cognitive aspect of policy oriented learning: the incorporation of more (scientific) knowledge in the theories and assumptions underlying the policy guidelines (may) result in better policies. Second, (policy oriented) learning can be perceived as a way of enhancing the legitimacy of the policy. This function focuses on the processual-constructivist aspect of policy oriented learning: the context of interaction and communication in which policies are formulated (may) result in more acceptance and support for the policy guidelines.

The relation between individual and social learning with regard to policy oriented learning
Although policy oriented learning takes place in an inter-organizational setting of policy actors (i.e. a policy network), according to the listed definitions of learning, learning must still (obviously) be considered as a human activity. In other words, who are the beneficiaries of the presupposed learning processes in PPA? From the description of the introductory cases can be derived that the beneficiaries of learning within PPA are in fact individuals who are, in most cases, (supposedly) representing organizations (municipalities, neighborhood committees, businesses, professional organizations, etc). Thus, it is interesting to find out how both individual and organizational learning takes place, and what the relationship between the two is.
Collective or social learning (and thus organizational learning) is impossible without individual learning. A collective is a collection of individuals: the individuals are 'the constructing material' and representatives of the collective (an organization, a network). A collective generates, spreads and exchanges knowledge through individuals. Organizational learning as such is an empty concept, it's the individuals within an organization who learn and can act together as a collective.
Why is the individual dimension of such high importance for studying organizational learning? Brown en Duguid (1991) give an explanation that I interpret as follows: the importance of the individual dimension results from the conclusion that although groups of stakeholders – different organizations – become communities of learning, it is still the individuals that learn and become 'insiders'. In doing so, they contribute to the differences and similarities between the groups (organizations). In reference to this, Brown and Duguid point at the importance of communities of practice in which learning experiences, new knowledge and innovations are exchanged between individual practitioners in the work field concerned (domain of research, policy sector).
In the next paragraph, learning is discussed from the relativist/pragmatist perspective, indicating that the individual dimension should be central in understanding and studying the policy oriented learning that emerges in PPA. It is our assumption that 'putting people first in policy oriented learning' is no less than acknowledging that it is people who learn and not concepts such as organizations or (policy) actors. It is the individuals that decide whether they have learned something, what the substance of the lessons learned is and how they will be applied to what end.

Relativist – pragmatist perspective on learning
The previous paragraph gives some indications on the relationship between the learning individual and the (social) environment in which the learning takes place, for example a family, a school, an organization or a policy network. Learning has primarily something to do with the individual, since it is the individual who learns and it is a collection of individuals who together, create the social environment. However, Maturana and Varela's statement (1987) that 'all knowledge is constructed' indicates that learning is not an individualistic activity. The construction of knowledge takes place in interaction with an environment. Or as Bredo (1994) states 'rather than a person being 'in' an environment, the activities of person

and environment are viewed as parts of a mutually constructed whole; put simply, the inside/outside relationship between person and environment is replaced by a part/whole relationship'. No individual is capable of learning without the presence of an environment which provides stimuli and experiences that provoke learning and in which this learning has meaning and applicability towards certain goals. Maturana and Varela (1987) pose that 'beings are at the same time not independent of their environment, but structurally coupled with it, they conduct their interchange with the environment by way of symbolic interaction'. This means that knowledge only has its value and relevance in a certain environment. What is relevant knowledge in one context may prove to be obsolete and useless in another. This observation calls for a relativist / pragmatist way of dealing with all aspects discussed in the previous paragraphs that together form the conception of learning.

In line with the considerations on PPA we argue that a relativist – pragmatist perspective on learning should also apply. This is based on the observation that 'beings do not pick up information like objective givens, but only according to their own rules of interpretation' (Maturana & Varela, 1987). This means that learning is no 'absolute entity' that can be fully predicted and controlled. Consequently, learning may be considered as a 'relativist activity' in the sense that it is closely related (intertwined) with the idiosyncratic mental framework and state of mind of each individual (or organization if you will) involved. Maturana and Varela's observation is vital proof for 'the validity of multiple perspectives in cognition and learning'. It seems not to be possible to give shape to learning by the construction and implementation of some kind of master scheme which determines what and how individuals should learn. Apparently, there are severe indications that what is learned is highly dependent on the interaction between individual and his/her context, i.e. the social environment and previous experiences. This means that learning is highly individual and situated (context-oriented). Although it is our proposition that it is the individual that is learning and not so much the organization, this does not imply that the organization is not relevant for learning. The organizational context provides the social environment in which learning takes place. The organization provides the stimuli, the purpose and the symbolic context (specific meanings, values and rituals) in which learning emerges and has meaning for the learning individuals. Thus, in our view learning is individually defined, and the learning environment is socially defined. This distinction between individual and social is valid under the restriction that they are meaningless without each other. Bredo (1994) and Dewey (1958) advocate to not separate the individual from its social context with regard to learning. It is therefore appropriate to speak of *'embeddedness'* to describe the inseparable relationship between individual and organization when learning is the object of study (see also Pye and Knight, 2002).

We argue that the concept of embeddedness may be considered to be part of the constructivist perspective on learning. The emphasis on the individual dimension of learning does not mean that a behaviorist or a cognitivist perspective on learning should prevail. On the contrary, in our view the constructivist perspective forcefully refers to the relativist/pragmatist nature of learning. For the social context that is conditional for individual learning is neither similar to prior situations nor controllable. And as a consequence, *what* is learned is not predictable but is, at best, described in some levels of expectations. This observation leads to an abandonment of an 'instrumental approach to learning' towards a more relativist approach. To elaborate on this relativist/pragmatist approach to learning, we turn to two philosophers who have made interesting remarks on this matter: Michael Polanyi and John Dewey.

Personalized learning and knowledge: the philosophy of Michael Polanyi
What is most valuable for the relativist – pragmatist perspective on learning is Polanyi's direction to the concept of tacit knowledge. Polanyi states that tacit knowledge is characterized by its incommunicability. The character of tacit knowledge is perhaps best described by expressing its distinction from explicit (or focal) knowledge. Tacit and explicit must not be considered as of two different types of knowledge, but as two dimensions of (the same type) knowledge. It is Polanyi's proposition that 'all knowledge is either tacit or rooted in tacit knowledge'. The distinction between tacit and explicit knowledge is also referred to as a corresponding distinction in embodied and theoretical knowledge. Explicit or focal

knowledge is what Ryle (1949) calls 'knowing-that'. According to Ryle knowing-that involves consciously accessible knowledge that can be articulated and is characteristic of the person learning a skill through explicit instruction, recitation of rules and explicit attention to his/her (physical) actions. In contrast, tacit knowledge is described by Ryle as 'knowing-how'. Knowing-how is characteristic of the *person* (my italic; Ryle speaks of the expert), who acts, makes judgments, and so forth, without explicitly reflecting on the principles or rules involved. The person just performs skilfully without deliberation or focused attention. Although even personalized learning dynamics lead to knowledge that is constructed and has meaning in a social context, it remains vested in individual mental frameworks (cf. Piaget). So, although knowledge is acquired in a social context, it cannot be separated from the knowledge acquiring individual. Therefore, the constructed knowledge can never be found, represented and/or applied objectively, without personal inference bias. Concepts as 'personal knowledge', or 'embodied knowledge' of 'knowledge as performance' stem from the pragmatic epistemology that is also advocated by Taylor (1991) who states that 'our understanding itself is embodied. That is, our bodily know-how, and the way we act and move…'. Rothfork (1995) agrees when he argues that 'personal knowledge suggests that knowledge is never entirely a state of mind, but always originally grounded in embodied action'.

The embodied experience is profoundly subjective, yet as knowledge it is necessarily public; i.e. something discussable. Embodied experience becomes knowledge when is put into action and/or is communicated to others. One might say that the discourse regarding personal knowledge (based on experience) stimulates the exchange of that knowledge, perhaps leading to new interpersonal, intersubjective knowledge. In this respect, the interaction between individuals regarding their knowledge (opinions, ideas) of for example a problematic situation, can be perceived as an experience in itself, thus leading to new knowledge.
We argue that this 'mechanism' can be recognized by anyone, as it closely resembles human nature with regard to the way individuals learn. That is by continuously constructing and reconstructing their knowledge. If we suppose that all individuals recognize this mechanism (and according to Dewey they are), there is some common ground to work from, pulling away from fuzzy intersubjectivism with regard to learning (acquiring, applying and reframing knowledge). On the other hand, the result of this humanly recognizable mechanism of how learning takes place, can never be predicted or controlled. The process of learning (as an interpersonal discourse) can be represented but the outcomes of that process will never be.

What makes Polanyi's view on learning pragmatic? Polanyi points accurately to the personal, tacit dimension of learning. Each individual (already) has its own frame of reference to which new knowledge is evaluated, added or modified (cf. Piaget). As earlier indicated in paragraph 2, these inner mental processes cannot be represented, studied or controlled, leaving the outcomes unknown. The tacit, personal dimension in learning consequently leads to different learning processes and outcomes in different situations. So, the coping with each different problematic situation will lead to an entirely different learning process.
This brings us to the conclusion that Polanyi's view on how learning takes place, resides within relativist/pragmatist perspective but his view on the intended outcomes of this pragmatic process is (still) close to representationalism. For the line of argumentation in this dissertation, Polanyi's view on how people learn is valuable, but his proposition to what end they learn, is not.

Learning from experience: Deweyan pragmatism
Following Darwin's naturalistic views on the complex interrelation between organisms and environments, Dewey formulates a similar, naturalistic view on the development of knowledge. He assumes that the development of knowledge is an adaptive human response to environing conditions aimed at an active restructuring of these conditions. Thus, in Dewey's view, thought is the result of the interaction between organisms (i.e. human individual) and their environment. Therefore, knowledge has an instrumental function in the guidance and

control of that interaction, and Dewey adopted the term 'instrumentalism' to characterize his approach to learning.

In Dewey's view, the organism (i.e. human individual) interacts with the world through self-guided activity that coordinates and integrates sensory and motor responses. For the theory of knowledge, this meant that the world is not passively perceived and thereby known, but instead active manipulation of the environment is an integral part of the process of learning. The process of learning, by Dewey referred to as the process of inquiry, within the interactive naturalist (or pragmatist) view on how knowledge is produced and applied, can incorporate both commonsense knowledge and scientific knowledge. The latter is only set apart from the former by the precision of its data collecting methods and the refinement of its hypothesis. This makes the process of inquiry applicable to all sorts of learning processes; Dewey applied the theory to his well-known and highly appreciated theories on education.

Let's take a more precise look at the concept of learning by experience, as formulated by Dewey (e.g. 1938/1963). Dewey defines learning as *a continuous reorganization and reconstruction of experience.* This is supported by this Dewey-citation:

> "To learn from experience is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequence. Under such conditions, doing becomes a trying; an experiment with the world to find out what it is like; the undergoing becomes instruction – discovery of the connection of things…(1) Experience is primarily an active – passive affair; it is not primarily cognitive. But (2) the measure of the value of an experience lies in the perception of relationships or continuities to which it leads up. It includes cognition in the degree in which it is cumulative or amounts to something or has meaning" (Dewey, 1916/1966; cf. Elkjaer, 1999).

This means that, in Dewey's view, learning takes place all the time, and in all situations where people act and interact – reflect and think. Dewey perceives learning as a process of reflective experience in which a person is confronted with a problem which makes him/her stop and think. Based on previous knowledge he/she undertakes action to solve this problem and then considers or rethinks the outcomes of his/her action. In case the outcomes are positive (the problem is solved) the person will undertake similar actions when confronted with a similar problem or will alter his actions when the outcomes turn out to be negative (the problem remains unsolved). The interesting aspect of focusing on experience with regard to learning is that it focuses on the individual. Although learning takes place in social environments, such as organizations, it is the individual who learns through reorganizing and reconstructing his/her experience. Experience is not derived from mere action or mere doing, and it is not only based on change, but change which implies reflection on former actions in order to anticipate future consequences and/or actions (cf. Elkjaer, 1999). With regard to enhancing organizational learning, this reflection on former actions should be a joint reflection among team members. Learning theory according to Dewey involves both actions and cognition, and actions without cognition are of little value to learning. The learning theory of Dewey is composed of:

- A continuous process of acting and knowing (thinking and reflecting);
- A problem oriented perspective. The encounter with a problem that makes us stop and think and by means of reflection, change our practice;
- A language to convey the things learned. A language enables the learner to generalize about specific actions and communicate the message through signs, words and concepts to him/herself and others.

What makes Dewey's view on learning pragmatic? Dewey accepts fallibilism that is characteristic for the school of pragmatism. As stated in paragraph 2, fallibilism is the view that any proposition accepted as an element of knowledge has this status only provisionally, contingent upon its adequacy in providing a coherent understanding of the world as a basis for human action. In other words, Dewey advocates the existence of a preliminary idea of what is

going on (e.g. a problematic situation) as a basis of doing something. This means that Dewey does not believe it to be possible to have a complete and immutable assessment of a problematic situation and its possible solutions. The mere assumption (or vague description) of an undesirable situation starts the process of inquiry.

4. Learning in networks: creating situated cognition

The acceptance of a relativist – pragmatist perspective on learning that emerges in participatory policy analysis can be captured by the concept of situated cognition (Bredo, 1994). The specific policy network in which PPA is conducted provides the social environment in which learning emerges and has its meaning. The outcome of the learning process – situated cognition – has its relevance and value only for that specific policy network and process of participatory policy analysis.

Following Dewey's ideas on situated cognition, we may presume that situated cognition is about 'acquiring understanding' and resides within the hermeneutic tradition. Stebler et al. (1994) advocate abandoning the efforts of defining the concept of understanding and suggest to retire from the trouble of further definition when they state that understanding is 'a multilayered and multifaceted phenomenom, for which we lack a reliable definition as yet'. They provide a variety of those facets by quoting several authors: factual correlation (Wertheimer, 1945 / 1964), productive reasoning (Duncker, 1974), integration of interrelated matter (Dewey, 1910 / 1951), operational flexibility (Aebli, 1951), assimilation of new matter to existing structures (Piaget, 1947 / 1976), concept formation (Aebli, 1980 / 1981), and problem solving (Reusser, 1984). All these facets of situated cognition point to 'the automatic activity of constructing (tacit) knowledge that works within a designated environment'. Each situation requires its own collection of knowledge that is constructed in its own pragmatic manner. In each case, a new body of knowledge emerges that cannot be replaced by or derived from previous knowledge collections, constructed in other situations (they simply would not apply). Moreover, the way of building up this body of knowledge will be pragmatically shaped by the interaction between individuals and their social environment (which will be different from previous situations and cases).

According to Bredo (1994), situated cognition points to a perspective that considers person and environment in terms to their contribution to an activity rather than as *separately described things* (italic by Bredo). Moreover, the adaptation of person and environment requires dynamic mutual change and adjustment rather than static matching. In addition, Bredo advocates that this interactionist, relational view is central to thoughts on situated cognition as the 'transactional' view was to pragmatism (Elkjaer (1999) and Lave & Wenger (1991) speak of situated learning to refer to the processes in which situated cognition is created and applied).

In understanding this view it is helpful to consider performance as 'the product of a history of relating in which both person and environment change over the course of the transaction'. Acting within the environment in this way contrasts with acting on it because it presupposes that it will turn around and alter oneself in return. The production of well-coordinated performance then involves a kind of dance between person and environment rather than the one-way action of one on the other. Such performances are often described in metaphors, acknowledging interplay: concerted, orchestrated and/or composed action/performance.

Based on Dewey and Bentley (1949), Bredo thinks that knowledge is not a matter of representationalism but – in contrast – a result of a specific process of inquiry that emerges within the person – environment interaction which allows action to carry on. Knowledge is inseparable from the occasion and activities of which it is the product (Brown, Collins & Duguid, 1989). This viewpoint is closely related to Dewey's observation that 'things gain meaning by being used in a shared experience or joint action' (Dewey, 1916). If learning can be assumed to actively convey meaning among individuals, the conative character of learning (McGill & Beaty, 2001) becomes clear; learning as in actively conveying meaning, involves experience and/or action that takes place in the specific interaction between person and environment (individual and group). Or as Bredo states: '….that education is a matter of

learning to participate in a jointly constructed social activity rather than transmission from one head to another'.

Thus learning is not to be perceived as a pure mental process involving only mind or psyche. According to Dewey (1958): '….to become aware of an object cognitively …involves external physical movements and external physical appliances physically manipulated'. Earlier (in 1896) he had argued that perception, thinking and action are intertwined, instead of being separate entities. For Dewey, perception and action are mutually shaping; perception changes with actively reconstructing (i.e. moving and manipulating) things, just as action is controlled by properly coordinated perception (cf. Bredo, 1994). Clancy (1992) rephrases this insight convincingly: 'the claim of situated cognition is that perception and action arise together, dialectically forming each other'.

So, perception, thinking and action cannot convincingly be separated from each other in understanding learning processes. And nor is the case with person (individual) and environment (group – organization). In line with Bredo's view quoted earlier in this paragraph, various other authors refer to the close connection between 'part and whole' (i.e. person and environment – individual and society) in constructing knowledge, meaning, descriptions and understanding. Moreover, differences in understanding between individuals can be overcome[1] by pretending (acting as if) their understanding is the same, creating some kind of looseness that is needed to allow change to happen (Bredo, cf. Newman, 1989). With this looseness, individuals refrain from locking interaction into rigid positions or opinions, creating stand offs and blocking conceptual change. Instead, the 'space' between the individual opinions can be used for the active reconstruction (cf. Dewey) of those opinions with the intention to reach mutual understanding. With regard to social activity, individual and society cannot be separately defined because individual change is not fully separable from social change.

5. Applying the narrative to the cases

Our narrative or line of thought – from the network characteristics to situated cognition – is applied to a participatory policy analysis process carried out for a spatial planning issue: the participatory SWOT-analysis for the spatial impact assessment study Railway Zone Breda.

The case study describes a participatory SWOT-analysis for assessing the impact of a large scale innercity infrastructural project "Railway Zone Breda" on adjacent residential neighbourhoods. In this process of participatory policy analysis (here after PPA) residents and other stakeholders, policy professionals of the municipality of Breda and researchers participated. This infrastructure project includes the transformation of the present railway station into a shuttle station for the high speed train Amsterdam – Paris as well as the reconstruction of this urban area by adding new spatial functions, such as businesses, houses, shops and other urban facilities. In addition the routing of traffic would be altered. The redevelopment of the Railway Zone will have undeniable impacts on the adjacent residential neighbourhoods Belcrum and Spoorbuurt. For this reason the municipality of Breda decided to let the stakeholders in the neighbourhoods participate in the impact assessment study. In the research process the emphasis was directed to the question what impacts the reconstruction could have for these neighbourhoods. The inhabitants and entrepreneurs (businesses) of those neighbourhoods were divided in their opinions and expectations. Some of them mainly saw the positive side - they expected to gain from the new situation - but others stressed the potential dangers of the intended project. Hence, the main research objectives were 1) to identify and analyze the current strengths and weaknesses of both adjacent neighbourhoods, 2) to explore potential impacts of the infrastructural transformation and the transformation (building) process, and 3) to identify actions needed for maximizing positive and minimizing negative impacts.

Approach

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[1] Assuming that this is necessary to make progress, e.g. in problem definition or problem solving.

The research assignment was aimed at organizing ´neighbourhood involvement´ in the impact assessment study. Stakeholders in both neighbourhoods were invited to participate in this study. The participation was demanded by the residents themselves. The desired participation lead to specific requirements for the research design. The collection and structuring of data had to be open, transparent and easy accessible. The workshops were open to everyone that lived in or had a stake in the neighbourhood. The objective of each workshop had to be straightforward as well: making an inventory of ´hopes and fears´ – i.e. expected positive and negative impacts – that the intended project would bring to the area. In addition an overview of possible policy measures that could be implemented to capitalize ´hopes´ and prevent ´fears´ from happening. Each individual participant had to be assured that his/hers individual knowledge mattered. The workshops resulted in a research report for each neighbourhood separately. The researchers of TNO facilitated the workshops and meetings with the residents and other stakeholders.

The processual approach to policy analytic challenge did not only materialize in a wide variety of collected data (based on so-called 'lay knowledge') from the residents´ viewpoint. It also resulted in structured and transparent interaction between policy professionals of the municipality and residents of both neighbourhoods. Both actors monitored and steered the progress of the study by participating actively. They had become ´researchers themselves´ to some extend, by supplying data (of all types), formulating conclusions and recommendations and helping the researchers to understand the local situation. In turn, researchers supported both actors in structuring complexity, by helping them to think in (present) strengths and weaknesses and (future) opportunities and threats, as well as recognizing the different levels of scale and time frames that characterizes complex, large scale spatial investment projects. In co-working with the researchers both actors gained better understanding for their (separate) interests and positions, leading to shared understanding of the problematic situations and policy challenges. And even to a more or less shared objective on the future development for each neighbourhood. A shared understanding of the desired (and still imaginary) spatial structure, social climate and safety situation were negotiated in the PPA-process.

The shared objectives had another (learning) effect. In the past years a gap between municipality and residents had developed, caused by the opposite perspectives and objectives of both actors with regard to the intended project. In addition the continuous uncertainty and volatility in (policy) intentions, objectives and expectations of the governmental agencies involved (including the municipality) made the residents reluctant to participate in any policy activity regarding the project. On the contrary, residents had been rather successful in mobilizing counter weight (i.e. opposing information, political pressure and media attention) to prevent the policy process from commencing. As a consequence, misunderstanding and distrust among both actors had arisen. At some point residents more or less ´forced´ the municipality to issue an impact assessment study in which they could play a prominent role, e.g. in monitoring and supervising the research activities. Researchers had to feedback their progress on a regular basis in so-called ´supervising groups´, composed of residents and stakeholders of each separate neighbourhood.

In the course of the PPA-process a certain release of tension between municipality and residents was recognizable, resulting in a more cooperative attitude towards each other. As a result, the study was finished in a more trusting and cooperative atmosphere in which both actors acknowledged the opportunities of the intended project for strengthening this urban area.

Reflection
The case can be considered to be *´a process of participatory policy analysis in which a network of interdependent actors try to achieve a jointly constructed and accepted approach (policy plan) for a complex and not yet knowable problem and in doing so, enter in (and mutually shape a learning process´*. In this characterization we identify five components that are elucidated and discussed in the following. These components are:
1. Process of participatory policy analysis (PPA);
2. Network of interdependent actors;

3. Jointly constructed and accepted approach;
4. Complex, not yet knowable problem, and
5. Learning process.

1.
For assessing the process of PPA in this case, we refer to the definition of Geurts and Mayer (1996). With this definition in mind it is our proposition that it is possible to accept a relativist/pragmatist perspective on PPA, avoiding representationalism in policy analysis. In addition, we can accept the processual character of policy analysis within policy networks and deal with its reflexive nature.

The description of the current state of affairs (on population, housing, crimes rates, traffic situation, environmental pressure and e.g. neighbourhood atmosphere) in both neighbourhoods (in strengthens and weaknesses) was endorsed by residents, policy professionals of the municipality and researchers. The actors involved managed to agree on their description of the current situation and were not forced to accept. The same applies to the exploration of ´hopes and fears´. This exercise delivered a wide variety images, wishes, creative solutions and bottlenecks that were negotiated and shared by the actors involved. The research assignment itself was indeed *a process*. The knowledge generation, exchange and application by the actors involved was conducted in several rounds, going back and forth, adjusting it to the wishes of the actors involved. As a result the PPA-process lead to 'negotiated knowledge' (Frissen, 1998; Jasanoff, 1990) that was 'serviceable' (cf. Jasanoff, 1990) to the actors who would use it for serving their interests in negotiating on policy decisions.

2.
For looking into the policy network in this case, we recall the definition of policy network of Klijn, Van Bueren and Koppenjan (2000). The case shows that the policy network in the Railway Zone is composed of the following local actors: the residents of two (different) neighbourhoods, others actors with interests in the neighbourhoods (entrepreneurs, shop owners), neighbourhoods professionals (police officers, social workers) and policy professionals of the municipality of Breda (from different departments). In the workshops, members of the city council and representatives of the local newspaper were also present. These actors need each other for achieving a prosperous future situation in that urban area. Neglecting one of these actors by in the PPA was likely to cause obstruction in the policy process as well as lacking vital knowledge. All actors participating in the impact assessment study will be affected by the intended project. As a consequence, each of them had specific ambitions, desires and/or fears with regard to the future situation and the process towards it. The actors grouped themselves around the intended project. The project is part is a national policy programme, called National Key Projects. These large scale spatial and infrastructural projects in innercity railways zones are launched and (financially) supported by the Dutch Ministry of Housing, Spatial Development and the Environment.

3.
The joint approach to the problematic situation is reached by means of the following shared policy objectives:
- Opportunities ('hopes') should be maximized (capitalized) and threats ('fears') should be minimized as much as possible;
- A specific impact had to be studied in more detail: the future health situation in both neighbourhoods after the reconstruction. The residents involved expect that traffic will be increased considerably in the future situation, causing negative environmental impacts such as air pollution and noise. This anticipated negative impact ('fear') was addressed in a an additional, scientific but non-participatory study that was afgedwongen by the residents (and paid for the municipality);

- The housing function in both residential neighbourhoods must be secured and enhanced. In `Belcrum´ housing is the key spatial function; in ´Spoorbuurt´ housing is mixed with other spatial functions, such as businesses and urban facilities (leisure, shops, health and social services) but was put forward more prominently;
- New urban facilities should have benefits for current and new residents. The residents should have access to more facilities (shops, jobs, health care, etc) 'at walking distance'. High level ambitions of the municipality (Euro-regional business centre, efficient transfer system for travellers) should be interwoven with neighborhood benefits.

Of course the residents demanded more influence in the present policy plans of the local authority (the municipality of the city of Breda). They had a number of additional issues that were put forward in the participatory SWOT-analysis. The most important issues were more influence in spatial and architectural design of the new blocks, parks and infrastructure, and the localization of security and health facilities in the new urban area (policy station and health care centre). These demands were not (yet) acknowledged by the municipality for reasons of finance, uncertainty about other spatial functions (such as businesses and public services) and the pressure from public and private investors. Through the PPA-process, residents came to understand that the manoeuvring space of the municipality for granting their wishes was limited.

4.
The 'reconstructed situation' and the reconstruction process itself in the Railway Zone – i.e. the impact and functioning of the High Speed Train system and the new spatial structure and functions in that urban area – can only be imaged and estimated and certainly not fully predicted or represented in a convincing fashion. This proposition is perhaps strikingly illustrated by the constant flow of changing plans, spatial studies and designs and e.g. models of the future area with which the residents had been confronted over the last few years. Experts and policy professionals struggled to establish a viable and sustainable plan for the new area.
Nevertheless something is going to happen in that area, involving large scale re-urbanization, an increase in different types of traffic and visitors (employees, travellers, new and more residents) and a change in neighbourhood character and climate. Both neighbourhoods WILL change, everybody agreed on that. Residents, neighbourhood professionals (policy officers and social servants), entrepreneurs and other actors involved proved to be very capable to imaging the possible impact of the yet unknown project. The question to describe 'hopes and fears' was serviceable for imagining possible impacts. From the generated 'hopes and fears' underlying expectations and thus desired objectives, could be surfaced and made communicable. Thus by posing a simple question, the complexity of the project and the reconstruction process was made tangible and materialized in information.

5.
From a relativist/pragmatist standpoint, the learning process that emerged in the PPA-process can be recognized as 'creating situated cognition' (Bredo, 1994). Following Bredo's conclusions, situated cognition emerges from physical and social experience and transactions rather than from a (previous) representation of the world outside. As a consequence, in social interaction the definition of the (learning) task, for example solving a problem situation, evolves from interaction rather than being given from outside. In each case, practice comes first, with theory emerging from within. A situated approach to learning (cf. Dewey, 1958) seems to point to a pluralist approach to PPA because there are many different (numerous) ways in which things are defined and constituted as appropriate and supportive of learning processes that emerge from a problem solving need.

The residents brought their personal knowledge to the workshops and in this interactive setting they created a joint view point of ´hopes and fears´ and desired policy measures.

The knowledge they brought in was grounded in the embodied experience of living in that neighborhood and experiencing and observing it function and disfunction on a daily basis. By working together, creating a joint view point in interaction with each other, the policy professionals and researchers, situated cognition emerged among the network actors. For each neighbourhood, residents, policy professionals and researchers reached a shared description of of strengths and weaknesses and opportunities and threat of that particular urban area.

The residents were brought up to date by the policy professionals with the delicate and uncertain situation in which the municipality of Breda was manoeuvred by the national government (the initiator of the National Key Projects), the provincial government (as co-investor of the transportation system and key spatial planning authority), Dutch Railways (a private, but partially state owned transportation enterprise), private investors (banks, project developers) and even the Flemish government (the high speed train from Amsterdam to Paris enters Flemish soil only a few miles south of Breda). Residents learned that these actors add complexity to the process and limit the manoeuvring space of the municipality in complying with their wishes.

The policy professionals of the municipality were brought up to date by the residents with the current state of affairs in both neighborhoods, the functioning and dis-functioning of these urban areas in daily life. In addition policy professionals gained insight in the expectations both positive and negative that the residents had with regard to the upcoming project and the future situation.

Conclusion

We cannot prove it in a Cartesian way but the presence of this specific group of individuals as representatives of network actors (residents, policy professionals and researchers) lead to a specific body of knowledge – situated cognition – that has meaning and executive power in the policy network the represent. Based on this situated cognition, policy decisions are made. It is our (pragmatic) proposition that if this group of representatives of network actors was composed of different individuals, the situated cognition in that policy network would be different. Nevertheless, this alternative form of situated cognition would also be acceptable as a basis for (alternative) policy decisions because the individuals are assigned to represent their ´organizations´, achieving 'negotiated knowledge' for supporting policy objectives.

The individuals are recognized and trusted by their constituents for serving their interests properly. As recognized opinion leaders and representatives they are capable of explaining the achieved results. In addition, the workshops were open to all residents, and if they could not attend them, residents were welcomed to submit their 'personal knowledge' to the researchers by phone or mail.

In a heterogeneous group of residents it is inevitable that differences in 'hopes and fears' will emerge. It is the task of the researchers to frame and reframe this knowledge in satisfactory formulations, of course in co-working with the disagreeing residents. This case proves that this is possible, for residents acknowledge the down side of not being able to reach shared objectives, causing a weaker position in the negotiating process with the policy professionals of the municipality.

Overall findings: Facilitating network (interorganizational) learning: a relativist – pragmatist perspective on participatory policy analysis?

The network characteristics of the social environment in which PPA takes place imply that (policy oriented) learning must be considered in a more relativist/pragmatist way.

From our cases study we can conclude that a relativist/pragmatist perspective on PPA advocates to:

- Move away from a prepossessed choice for one (or the) method of PPA-facilitation. The participating actors shape the method and the way that it is implemented along the process;

- Leave the outcomes open; let them develop in the learning process that undoubtedly will emerge within the participatory policy analysis process. Let the actors themselves decide what is learned and let the 'learnings' develop in the process;
- Pay much attention in establishing and supporting connections between the actors involved, for it is the connections that create the idiosyncratic 'situated cognition' for that particular policy network.

It is our idea that network learning emerging in PPA-processes is not so much oriented on generation, exchange and application of (objective, scientific) knowledge but more on 'learning how to connect'. These connections should be established among:
- Different types of knowledge (lay and expert knowledge, explicit and tacit knowledge, personal and organizational knowledge, facts and figures and emotion and intentions, etc.);
- Different types of levels (individual, group, organization, network; cf. Knight, 2002);
- Different types of actors and interests.

To facilitate 'learning how to connect', PPA could serve as an approach for providing the infrastructure. In this sense, PPA acknowledges policy networks as social learning environment. In this learning environment connections among actors are established, maintained and altered in order to reach 'situated cognition'.
The importance of 'learning how to connect' brings us to the individual dimension of network learning, within PPA-processes. Only individuals are capable of constituting and maintaining meaningful connections and therefore, constituting new networks (remember, networks are about connections and not so much about actors, cf. Castells). Following this, it is the individuals in their role of network actor representatives that can learn and apply the 'learnings'. As a consequence they should have the primacy in shaping PPA-processes and the learning processes that emerge within them.

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