# Learning among policymakers –
# the missing link to improve earth system governance

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## Abstract

The RIO+20 summit and international climate negotiations are examples for the incrementalism embedded in the earth system governance architecture. Innovative solutions and reforms require political will, which points towards policymakers as central actors and their ability to act upon the scientific evidence through learning processes. Learning among policymakers is considered to be a relevant factor in policy making as it can lead to self-sustaining and self-reinforcing dynamics. Thereby learning potentially improves the quality of policies. Learning can occur at the heart of policy innovation or within a wider process that diffuses policies across multiple levels of governance, thus making it easier for policymakers to agree to ambitious climate targets or UN reforms. This paper examines if and under what conditions policymakers learn. It opens the existing 'black box' of learning in policy making by illuminating when, how and under what conditions in the process of policy making within multilevel governance the different learning types of Factual, Experiential, Constructivist and Non-Learning occur. The paper contributes a theoretical framework that allows determining if and how decision-makers learn in the process of policy making. Learning among decision makers only occurs if these reflect upon new information provided to them through an experience or increase in knowledge and if they, as a consequence, change their underlying assumptions, beliefs or values and come to a different view of the situation. Networks, policy entrepreneurs and the leadership style within a governmental institution are decisive conditioning factors that determine which type of learning occurs in a given policy making process.

**Key words**: Learning; policy making; typology; policy learning, constructivist learning; theoretical framework

## Learning in policy making … why is it relevant?

Policy makers are permanently concerned with decisions that affect millions of people once they become a policy directive, administrative practise or law. The results of government regulation can have significant impact on a countries' economy, infrastructure, available technologies and thereby environment and social system for decades to come, as businesses and citizens adapt their behaviour to the regulatory requirements in their attempt to comply. This adaptation to regulation can lead to various social path-dependencies and technological lock-ins (Scheryögg and Sydow, 2010) if the regulation is in place over a longer time as technological development and social change occurs. Consequently, there is a large responsibility for normatively 'good' regulation, which is connected to learning from the experience with past mistakes inside or outside the relevant governmental departments. Policies emerge as a consequence of different internal and external demands on organisations and institutions. The human factor considerably influences the outcome of policy making, especially how policymakers approach their task of contributing to new policies or revising existing ones and how they react to existing pressures. Yet, this process is not a 'one-shot' occasion, it rather occurs over a longer period of time and thereby offers the opportunity to learn from past successes and failures or to transfer knowledge from previous experiences to the current situation (Bennett and Howlett, 1992; May, 1992; Dolowitz and Marsh, 2012; Zito and Schout, 2009).

Learning among policymakers is considered to be a relevant factor in policy making as it can lead to self-sustaining and self-reinforcing dynamics, thereby improving the quality of policies. An interdisciplinary review of the learning literature leads to the conclusion that the literature on policy learning can benefit from further

integrating the cognitive and constructivist learning perspectives of social psychology on individual and organizational learning. Unfortunately, the political science literature has only minimally engaged with these other learning literatures so far, although they provide the missing link to open the 'black box' of when exactly learning occurs in the policy making process. Notable exceptions are Dunlop (2009), Radaelli (2009) and Owens (2010), who emphasise the central role of knowledge and scientific evidence for learning in policy making, as well as Zito and Schout (2009; Schout, 2009), making the rare connection between the policy and organizational learning literature.

This article synthesises key insights from the learning literature in political science, social psychology and management to examine if and under what conditions policymakers learn – and how this learning in policy making can be detected. It makes an original contribution by opening the remaining 'black box' of learning in policy making and proposing a theoretical framework to determine which type of learning occurs in a given policy making context. It argues that learning among decision makers only occurs if these reflect upon new information provided to them through an experience or increase in knowledge and if they, as a consequence, change their underlying assumptions, beliefs or values and come to a different view of the situation. It identifies networks, policy entrepreneurs and the leadership style within a governmental institution as decisive conditioning factors that determine which type of learning occurs in a given policy making process.

The first part reviews learning theories in political science, management and social psychology and concludes that these theories can be aligned in a learning continuum spanning the individual, institutional and socio-political level. The second part develops a theoretical framework for learning in policymaking based on the learning continuum and discusses the factors that determine what kind of learning occurs in

policymaking. The final section elaborates how this framework can be applied in empirical research. A clear understanding of why decision-makers learn in one policy making context but not in another opens the view towards underlying incentive structures in policy making. It carries implications for a normative debate on how these factors that either facilitate or hinder learning can be improved in the future.

## *Multidisciplinary review of learning in policymaking*

The learning literature is spread over at least three disciplines: political science, management, education and social psychology and dates back to the 1950s. This multidisciplinary review of the learning literature attempts to consolidate major streams of learning literature based on their relevance to the research question on how learning in policymaking can be detected and examined. The past decades have seen the development of a diverse body of literature both from an empirical and theoretical angle. As providing a detailed overview is beyond the scope of this article, the focus is on landmark contributions and developments relevant to the research question.

The key element is a clear definition of what learning means in the policymaking context. A review of major definitions of learning (i.e. see definitions provided by Argyris and Schön, 1978; Jachtenfuchs, 1997; Kim, 1993; May, 1992; Sommerer, 2011; Zito and Schout, 2009) identified elements common to most learning conceptualisations. The following definition attempts to consolidate the nuanced understandings of the learning literature and to provide an overall conceptual basis to the analysis. This article consequently defines learning as a

> reflection and judgment based on an input, experience or detection of error, which leads the individual to select a different view on (1) how things happen, i.e. the acquisition of knowledge or learning facts and (2) what course of action to take, i.e. the reflection on individual or collective experience or

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advise from others on such previous experiences. The judgement leads to change within the individual (i.e. it selected a different view and acts upon it differently than before) and/or within the organisation and/or on the socio-political level, which includes individual change that leads in a collective correction of views to different actions than before acquiring new facts and/or experiences.

*(Compiled by author, based on Argyris and Schön, 1978; Bennet and Howlett, 1992; Kim, 1993; May, 1992; Sommerer, 2011; Zito and Schout, 2009)*

*Policy Learning*

When several state and non-state actors are involved in the exchange of knowledge on past experiences in a public policy setting, the overall term is policy learning. The 'New Governance' literature emphasises the exchange of knowledge and experiences in committees as comitology- and best practise learning (Dogan, 1997; Eberlein and Kerwer, 2004; Joerges and Neyer, 1997; Nedergaard, 2006) up to the notion of framing the integration of environmental and climate change aspects into other sectoral policies (Environmental Policy Integration) as a learning process in itself (Feindt, 2010; Nilsson, 2005; Nilsson and Eckerberg, 2007).

The basis to policy learning via policy transfer is drawing lessons from experience with policy programmes in other places or organisations (Asare and Studlar, 2009; Benson and Jordan, 2011; 2012; Dolowitz and Marsh, 1996; 2000; 2012; Dunlop, 2009; Marsh and Sharman, 2009; Rose, 1991, 1993; Sommerer, 2011). Lesson drawing is not an innovation itself but rather the utilisation of available experience (Rose, 1991; 1993; 2005), frequently motivated by dissatisfaction with the status quo (Rose, 1991: 5). For policy learning and lesson drawing to occur, government officials embark on a search for ideas on how to improve the status quo. Frequently they turn to epistemic communities, which act as agents of change due to their capability to

provide policy-makers with input on what lessons can be drawn from experience else-where (Dunlop, 2009; Rose, 1991). Further central actors to lesson drawing in public policy are civil servants, especially due their continuous input to situations of 'collective puzzling' when elected officials are acting on the system-inherent uncertainty and wonder what to do (Heclo, 1974).

A large body of literature focuses on social learning among policymakers in policy- and knowledge networks that are even capable of changing underlying perceptions, norms and values (Hall, 1993; March and Rhodes, 1992; May, 1992; Radaelli, 1995; Sabatier, 1987; 1988; Stone, 1985). Advocacy coalitions play a key role as drivers of learning in public policy. Sabatier's (1988) Advocacy Coalition Framework illustrates the theory of public policy making as a theory of learning. Learning occurs within a domain due to differences in the belief systems (deep core, policy core, secondary matters of detail). The extent of policy learning is influenced by the level of commitment between the actors, fundamental legal norms, the desire of advocacy coalitions to 'outlearn' each other and the existence of niches providing areas for policy experimentation. Policy learning especially occurs in secondary aspects such as revisiting policy programmes, but is less frequent in the area of changing core beliefs (Sabatier, 1987; 1988; 2007).

The policy learning literature points towards the importance of epistemic communities and experts as agents of change (Haas, 1992; Jasanoff, 1990) and links them with policy entrepreneurs (Braun, 2009; Roberts, 1992; Roberts and King, 1991; Schneider and Teske, 1992; Zito, 2001). It contributes analyses on factors that determine if learning occurs or not (May, 1992), most notably networks and comitology (Eberlein and Kerwer, 2004; Haas, 1992; Nedergaard, 2006), policy entrepreneurs (Braun, 2009; Radaelli, 1995; Rose, 1991) and changes in underlying beliefs and

norms as consequence of interaction in coalitions and issue specific networks (Sabatier, 1987; 1988). Yet, contributions in the management literature point towards the relevance of other factors that are also relevant in the context of government organisations. These include the immediate work environment such as superiors and leadership (Berson et al., 2006), the organisational rate of change including institutional resources and personnel turnover (Miller et al., 2006) and the interaction with the social network or other actors involved in multilevel governance (Fawcett and Daugbjerg, 2012; March and Rhodes, 1992; Stone, 2000; 2005; 2008).

*Cognitive and Organizational Learning Theories*

Cognitive learning asks how individuals, including decision-makers, learn. It is based in psychology and therefore takes a micro-approach as opposed to the macro-approach of political science. One central concern of the cognitive learning literature is to determine how humans learn. Learning can be defined as a process of drawing conclusions from experiences such as errors made in the past, reflection and adoption of a different course of action (Argyris, 1976), thereby generating knowledge or skills. Argyris and Schön describe this model of learning from experience as "discovery-invention-production-generalization" (Argyris and Schön, 1978: 140) process. It has been taken up and modified several times by subsequent authors to match their respective analytical focus of the learning environment. Learning occurs when new concepts are being integrated with previous knowledge (Kolb and Kolb, 2005). Following a concrete experience, the individual makes reflective observations and forms an abstract conceptualisation, which is tested via active experimentation (Kolb, 1984; Kolb and Kolb, 2005).

Argyris (1954; Argyris and Schön 1978; 1999) developed a central theoretical framework to analyse how individuals and their organisations learn, which provided the basis for the discipline of organizational learning with various contributions and applications (Dodgson, 1993; Easterby-Smith and Lyles, 2005; Huber, 1991; Kim, 1993; March, 1991). The paradox of organizational learning is that it encompasses more than the learning experienced by individuals, but the method of learning is through the actions and experiences of the individuals within the organisation (Argyris and Schön, 1978: 9). They introduced a "Theory of Action" (Argyris and Schön, 1974) to understand how decision-makers (i.e. policy makers and managers) learn to improve their effectiveness and competence both by taking action and learning from the experience through reflection. This deliberate action has a cognitive basis reflecting strategies, norms and assumptions of the individual's world and constitutes a theory-in-use, the way an individual acts in a given situation. This is not necessarily the same as the 'theory-in-action', which refers to a behaviour the individual communicates as its principled course of action (Argyris and Schön, 1978: 10f.).

Within an organisation, individuals construct their own but incomplete image of the overall 'theory-in-use', which is constantly being modified and makes organizational learning "an active process of organizing" (Argyris and Schön, 1978: 16) leading to what Argyris and Schön call Single-Loop-Learning. Central elements of single-loop learning are unchanged norms and the objective of error elimination by developing new strategies to solve the problem; however for individual learning to become organizational learning, the evaluations need to be transferred to organizational memory (Argyris and Schön, 1978). Since the single-loop learning process or error detection and correction rather depicts individual (or in the case of organizational learning social) perspectives of cognitive learning, Argyris and Schön introduce "double-loop

learning" as constructivist element. This becomes especially relevant when the norms defining effective performance need to be reconsidered and altered (Argyris and Schön, 1978; 21f.). Double-loop learning refers "to those sorts of organizational inquiry which resolve incompatible organizational norms by setting new priorities and weighting of norms, or by restructuring the norms themselves together with associated strategies and assumptions" (Argyris and Schön, 1978: 24), thus leading to a change in underlying norms and assumptions. Individual learning can lead to organizational learning and a resulting change in the policy output (March and Olsen, 1975).

*Non-learning: defensive avoidance and muddling through*

Before learning in the process of solving a problem can occur, the decision-maker needs to actively decide to address the problem and develop a trial solution (Swann, 1999). Therefore, non-learning as the opposite case of learning needs to be taken into account. A small body of literature based mainly in psychology and management is concerned with the concept of non-learning among decision makers due to other factors such as power, ideology, political interests, constraints in organizational capacity and defensive avoidance (Buchanan and Badham, 1999; Contu, 2003; Coopey, 1995; Hughes and Tight, 1995; Janis, 1972; Janis and Mann, 1977; Klein, 1989; Vince, 2001), which is also referred to as reactive governing or 'muddling through' (Lindblom, 1979). Yet, it had a relatively small uptake among more widely accepted theories of decision-making and learning.

Janis and Mann (1977) emphasise that policy-makers may consciously or unconsciously avoid addressing a problem, thus engaging in defensive avoidance. This form of psychological defence interferes with information processing and is frequently connected to unconscious sources of unresolved conflict regarding a decision

(Janis and Mann, 1977: 98). Especially policy makers have usually two options when confronted with a problem that requires a resolution: either they address the problem by designing a trial solution and thereby enter a process of cognitive or potentially constructivist learning (Swann, 1999), or they resort to defensive avoidance with personal consequences of a positive or negative nature. Aspects of defensive avoidance are procrastination, buck passing and bolstering (Janis and Mann, 1977: 107).

The hindering factors highlighted in the non-learning literature point towards individual factors, institutional barriers and political issues dominant in the policy-making sphere of multilevel and multi-actor governance. The non-learning literature is related to the well-developed literature on power and more state-centred explanations for policy change such as the influence of powerful actors (Barnett and Duvall, 2005) and their voting power, political bargaining (Moravcsik, 1993), power within the organisation (Preston and Hart, 1999; Wilson, 1995) or more critical political economy accounts of the influence of industry lobbying organisations and powerful economic interests (Forsyth, 2003; Newell, 2000). Therefore, the question if policy makers learn also needs to take into account instances where decisions for policies are avoided through procrastination, wishful thinking that the situation resolves itself, delegating the decision to other individuals/ groups or ill-considered decisions based on groupthink (Janis, 1972). These forms of defensive avoidance or decisions hinder the policy-makers from entering into a learning process and thus constitute instances of non-learning. It is therefore especially important to integrate this strand of literature into the policy learning perspective as it challenges the 'default' explanation of learning for changes that are difficult to grasp with conventional governance theories. The following section synthesises these three strands of literature to determine what aspects of learning they cover and how they relate to each other.

*The learning continuum*

The core element to detecting learning among policy makers is to define what constitutes learning, especially as opposed to lobbying and classic bargaining behaviour in negotiations. The learning literature leads to the conclusion that learning in a policy making setting consists of three core components: the actor(s) reflect on a stimulus such as new information, which leads to a change in knowledge (i.e. Factual Learning), experience (i.e. Experiential Learning) or even underlying beliefs, assumptions, norms and values (i.e. Constructivist Learning).

Above discussed diverse bodies of learning literature do have commonalities that point towards a larger set of factors determining how decision makers learn. Theories can be placed inside a continuum between individual learning and collective learning, while some theories expand to the link between the learning of an individual and how the learning result is transmitted to the broader community of that individual, for example the organisation or a network of different governmental, non-governmental or transnational actors, which can be regarded as the institutional level. For example in the European Union, the institutional level includes all actors involved in policymaking via directly or indirectly influencing decisions in the European Commission, the European Parliament and the European Council. The other aspect of learning in a collective sphere would be of wider socio-political remit. It includes the media, the public as voters and different civil society organisations.

Second, the learning continuum distinguishes between three modes of learning that also overlap in some learning theories and concepts. Learning occurs when there is a positive change, i.e. an increase, in the knowledge base of an individual or an organisation initiated by an internal or external information input that can lead to the

development of certain skills. The most dominant mode of learning is by doing, i.e. experiential learning that is based on drawing lessons from an experience (Argyris and Schön, 1974; Kolb, 1984). Individuals and organisations can also arrive at constructivist learning when they change their underlying assumptions, norms or values based on an experience or increase in knowledge and thereby come to see the situation differently, what in turn leads to a more informed and reflected reaction (Argyris and Schön, 1978; Hall, 1993; Sabatier, 1987).

Figure 1 provides an overview of the major learning literatures. The bodies of literature can be situated in the learning continuum along the individual or collective (organizational, institutional or socio-political) dimension. The other dimension is the mode of learning as seen as an increase in either knowledge, experience or change in underlying beliefs and assumptions.
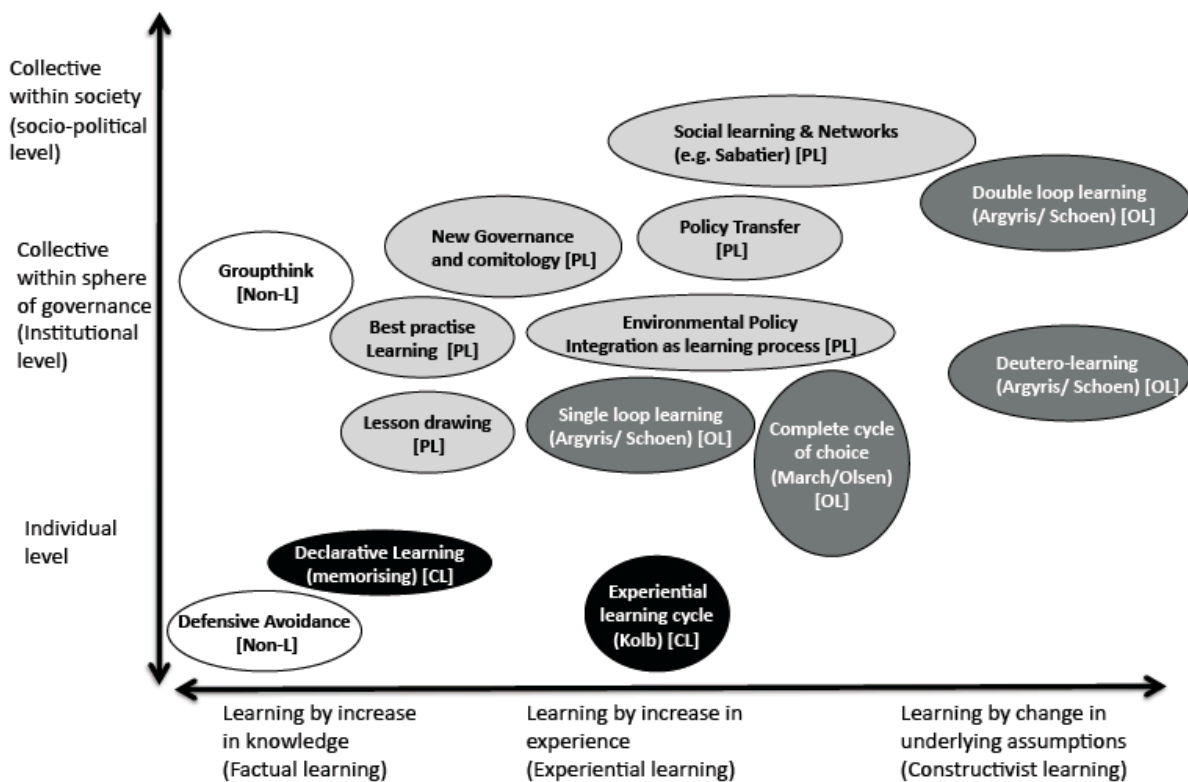


*Figure 1. Categorisation of major learning theories and concepts within the learning continuum. Compiled by the author. PL = Policy Learning; CL = Cognitive Learning; OL = Organizational Learning; Non-L = Non-Learning.*

Cognitive learning theories describe learning with increases in knowledge and, in the case of the experiential learning cycles, an increase in experience and concepts. They can predominantly be found on the level of individual learning. The organizational learning literature frequently links the individual with the organizational or institutional, i.e. collective dimension of learning and focuses on how individual learning experiences are transferred to the larger organisation based on experiences and/ or a change in underlying assumptions, thus introducing also an constructivist element. The policy learning literature is predominantly concerned with the dimension of collective learning among institutions involved in policymaking and how individuals react within their networks to altered outside conditions and adapt policies from other levels of horizontal or vertical policy making. The non-learning literature can be situated either on the individual level where there is a lack of reflection on new information (defensive avoidance) or on the collective level where decision makers resist to take into account new knowledge, which is referred to as groupthink (Janis, 1972).

*The Learning process in policy making*

Based on the definition of learning provided, the following section presents an analytical framework that explains when in the policymaking process learning among decision-makers can occur and when it may be hindered by individual, organisational or political factors. The analytical framework describes the four different stages of learning within an overall learning process based on Swann (1999) and Argyris' single-/ double loop learning (Argyris, 1976); factors that facilitate learning such as networks in policy learning (Hall, 1993; March and Rhodes, 1992; Sabatier, 1987) and presents three central factors that can hinder the occurrence of learning. These include

defensive avoidance, organisational hindering factors such as resource constraints or institutional culture and political bargaining in negotiations (Buchanan and Badham, 1999; Eppink, 2007; Janis and Mann, 1977; Moravcsik, 1999).

In policymaking, learning processes can occur either on the individual or collective level. The policy maker looks for a solution to a policy problem, the driver to learn (Swann, 1999). If the policy maker does not give in to defensive avoidance and other factors such as following orders (Janis and Mann, 1977), a learning process is initiated. The policy maker reflects on previous knowledge and experience in search of a trial solution (Swann, 1999) and designs a policy proposal (March and Olsen, 1975). To do so, the policy maker draws on a network of other actors who provide input into the policy proposal drafting process (Eberlein and Kerwer, 2004; Hall, 1993; May, 1992; Rosenau, 2004; Rhodes and March, 1992; Sabatier, 1987). As soon as other policy makers inside the original policy maker's organisation join in to further develop the policy proposal, individual learning is widened to organizational learning among several individuals (Argyris, 1999; March and Olsen, 1975; March, 1991). However, organisational hindering factors such as resource constraints can also lead to non-learning as there may be no time to reflect on the information or not enough qualified personnel available to work on the issue (Janis and Mann, 1977). The proposed policy solution is assessed by the other policy makers and discussed within a network of stakeholders inside and outside the organisation, thus potentially leading to learning within policy networks (Hall, 1993; Sabatier, 1987). These actors such as epistemic communities, industry or NGOs provide feedback, agree or disagree with the policy proposal and demand changes (Haas, 1992; Stone, 2000; 2005). Assumed that there are no political hindering factors that lead to the abandonment of the initial draft, the result is a policy proposal that can then be introduced into the political deci-

sion making process, where it is further negotiated under the input of interest groups and may result in an policy output. It is important to note that although learning among the individual or the organisation may have occurred in the process of developing a policy in response to the initial driver (e.g. a policy problem), this learning is not necessarily reflected in the policy outcome as it may be diluted by political interests, bargaining deals resulting from the political negotiations and power politics. Figure 2 presents the learning process based on the learning literature.
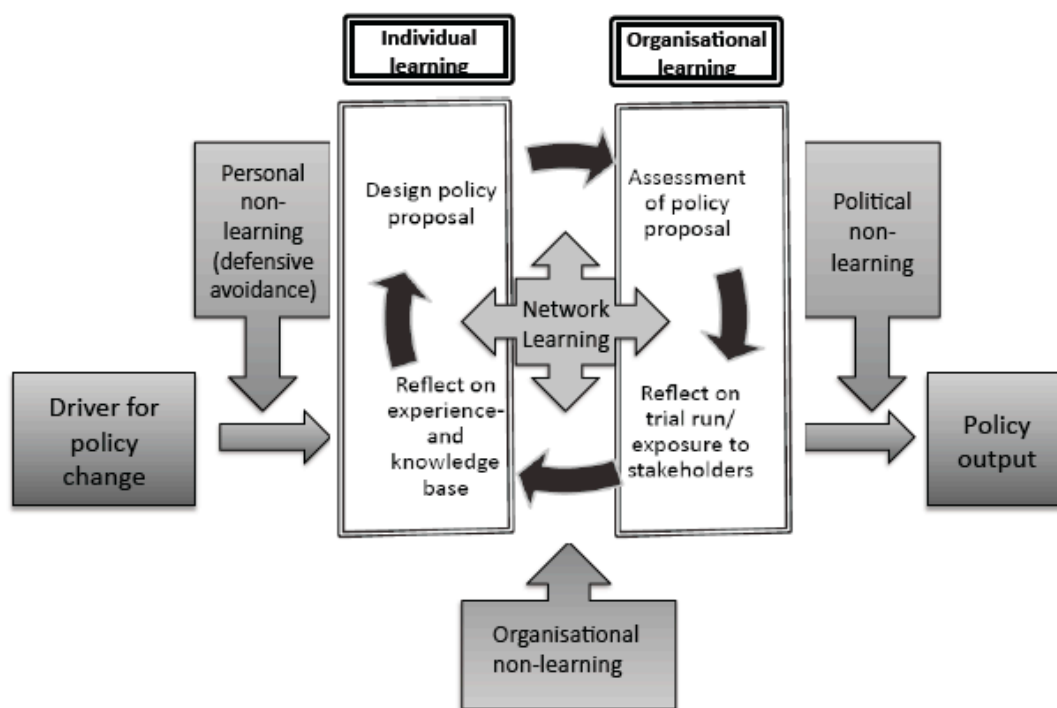


*Figure 2. The simplified learning process. Compiled by author; based on Argyris and Schön, 1978; Janis and Mann, 1977; March and Olsen, 1975; Sabatier, 1987; and Swann, 1999.*

## *Learning typology – how learning can be detected*

Learning in policy making occurs when an individual or a group experiences a change and reflects upon it as discussed in the definition of basic elements to learning (May, 1992; Zito and Schout, 2009). Resulting from the review of learning literature in political science, management and social psychology, there are three common ele-

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ments to learning. Factual learning refers to a change in knowledge. The individual received new information or rearranged existing knowledge given a new context, processed the new information cognitively and added it to the base of knowledge (Argyris, 1999; Kolb, 1984). Depending on the formation of cognitive links to existing knowledge, revision and the use of different information processing modes such as visualizing, hearing, discussing or feeling, the knowledge is stored in memory and can be retrieved if required. Second, a change in experience; i.e. the individual has made an experience regarding a policy, reflects upon it and adds the conclusions from the experience to their set of skills (Experiential Learning; Argyris and Schön, 1978; Kolb, 1984). Both forms of learning can also be combined when the individual gains knowledge about an issue by experiencing it in practice and not only in theory. If underlying norms, beliefs, values and assumptions change and this change results in a different view of the world, normatively characterised constructivist learning occurred (also originally referred to as double-loop learning by Argyris, 1976; Sabatier, 1988).

Figure 3 visualises the typology of learning among policy makers. It is based on a synthesis of learning in the political science, management and social psychology literature and the definition of learning introduced above. This typology helps determine if and what type of learning occurred in policymaking. The figure illustrates factual learning with its change in knowledge, experiential learning with the change in experience and normative learning with a change in underlying beliefs and norms. The occurrence of each change means that learning occurred; however they can also overlap with each other. Both the change in knowledge and in experience can overlap with a change in the underlying beliefs and norms. If the policy maker had an experience or received new information that encouraged reflection, and as a consequence changed some deep beliefs that determined the way the policy maker used to interpret

the issue and consequently arrives at different decisions and changed opinions, the ideal type of Deep-Level Governance learning occurred (overlap area of change in knowledge, experience and norms/ Factual, Experiential and Constructivist Learning).

There are several factors internal and external to the policy maker's organisation or personal way of dealing with a situation that can result in non-learning. Although there is stimulation towards a change in knowledge, experience or norms encouraging reflection, the policy maker does not experience that change. Instead, the policy maker is preoccupied with organisational hindering factors such as faulty leadership or time pressures, with political interests; defensive avoidance or the policy maker is simply following orders (Janis and Mann, 1977). Those aspects are summarised as non-learning as opposed to learning based on a reflection of the new information. Consequently, the key to determine if learning occurred is to establish that the individual decision maker reflected on the new information and as a consequence changed underlying assumptions, gained new expertise and experience with the issue.
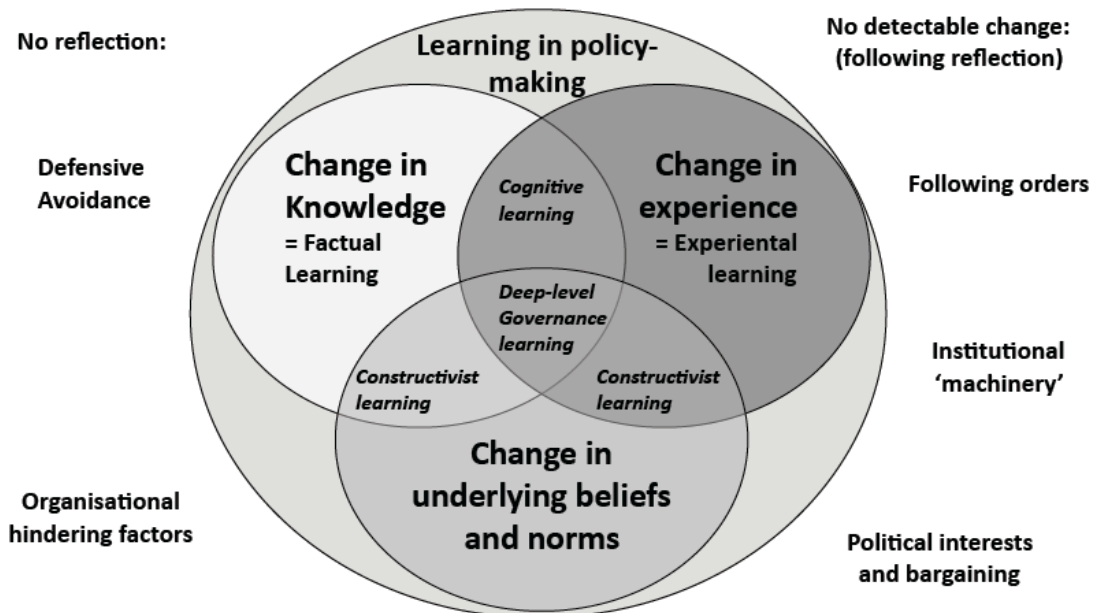


*Figure 3. Learning typology (change in knowledge, experience or norms) and non-learning in policy making. Compiled by author.*

*Levels of learning*

The literature review identified a large number of learning theories that are focused on collective learning, i.e. learning that involves more than one individual, which can be further divided into the institutional and the socio-political level. The literature is split in the area of collective learning along the disciplinary boundaries of organisational learning (Argyris, 1976; Argyris and Schön, 1978; Huber, 1991; March and Olsen, 1975), which is concerned with the interaction of learning processes between individual employees and their organisation, and the policy learning literature that examines the learning of institutions (Dolowitz and Marsh, 1996; Dunlop, 2009; Eberlein and Kerwer, 2004; Radaelli, 1995; Rose, 1991) and the wider social context with references to societal consensus and the overall policy making agenda as learning process (Nilsson, 2005; Nilsson and Eckerberg, 2007; Sabatier, 1987; 1988).

The institutional level includes the notion of organizational learning linking the individual learning outcomes to a learning process in the organisation and related government institutions in the wider sphere of multi-actor and multilevel governance (Hooghe and Marks, 2001; Marks, 1993) with policy entrepreneurs as central actors that facilitate learning between individuals and across the institutions in issue networks, policy communities and advocacy coalitions (Braun, 2009; Dolowitz and Marsh, 1995; Rose, 1991; Rhodes and March, 1992; Sabatier, 1988).

The socio-political level is the wider sphere of society that is interdependent with the institutional level via politicians and media, who both influence the public debate and are influenced by it. Once a learning process has taken place on the socio-political level and voters are convinced that a policy is desirable, they provide a strong rationale for politicians to support the policy development, thus leading to requests from politicians to the government institutions to develop respective policy proposals.

On the other hand, civil servants, politicians and non-governmental actors communicate and negotiate in their policy making networks with each other exchanging positive messages about the desirability of the policy, creating further momentum for the policy rationale to be widely accepted in a self-reinforcing dynamic. Consequently, learning on the socio-political level strongly integrates learning in networks among actors involved in policy making (Sabatier, 1987) with a wider societal consensus of the overall desirability of a policy and political actors who demand such policy based on the overall popularity of the position.

Thus, to detect learning among decision makers and especially to determine where learning occurred, it is essential to formally introduce a second dimension to the previously developed theoretical framework of detecting learning as change in knowledge, experience and/ or underlying beliefs or the lack thereof with non-learning via defensive avoidance or political pressures. The second dimension contains three levels of learning: the individual level, the institutional level and the socio-political level. All three levels are interdependent with each other, which means that learning processes on the socio-political level that have resulted in changes in societies' underlying beliefs and values can lead to demand on government institutions to develop a policy that provides a solution to the policy problem based on political interests (Buchanan and Badham, 1999; Eppink, 2007). As individual civil servants are being tasked with the development of a policy that meets the socio-political demands, they engage in their policy making networks, interact with other policy makers and potentially transfer a policy from another vertical or horizontal level of governance to their own level (Rose, 1991; 1993; 2005), thus they engage in experiential learning, gain more knowledge in the process (factual learning) and potentially also change

their underlying assumptions and norms by reflecting on the importance of the policy they have been working on (Argyris, 1976).

By developing a new policy and negotiating this new policy proposal in other governmental institutions, individual actors can convince other actors within the institutions of the importance to support the policy proposal by changing their underlying beliefs and assumptions via an increase in knowledge (Sabatier, 1987). Therefore, learning on the institutional level can also be influenced by learning processes on the individual level. Figure 4 visualises the interdependence of the three levels of learning with their embedded changes in knowledge, experience and/or underlying beliefs and norms symbolised through the smaller overlapping circles within each learning level.
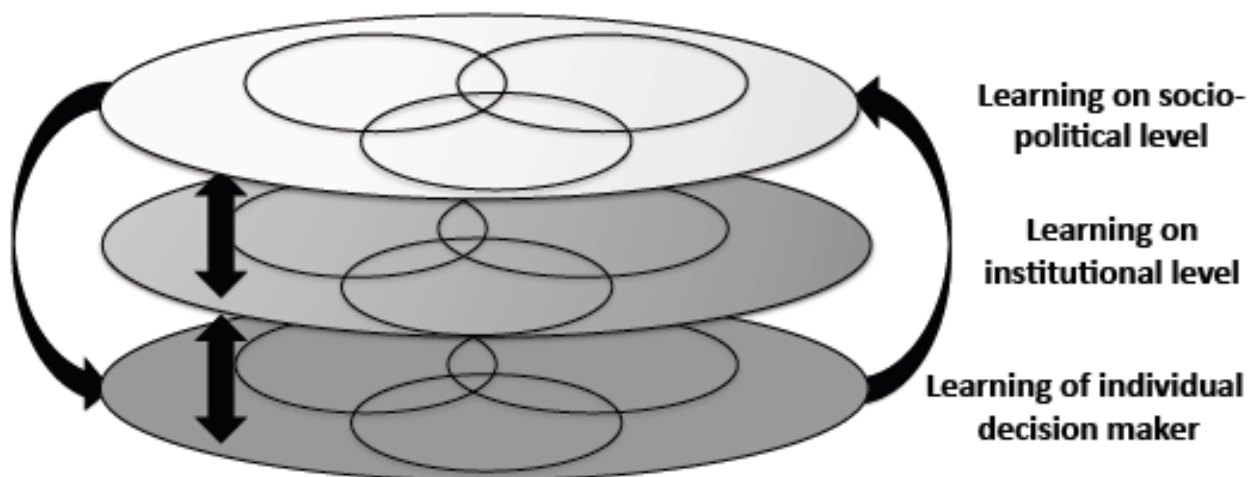


*Figure 4. Factual, experiential and constructivist learning on the individual, institutional and socio-political level and their interdependencies.*

*Key factors for learning to occur in policy making*

As pointed out in the literature review and in the section on the learning process, it depends on a number of independent variables which type of learning occurs among policy makers on those different but interdependent levels of learning. The literature indicates that three factors are especially relevant: networks and policy entrepreneurs for the transmission of learning between the individual, institutional and socio-political level (Braun, 2009; Roberts and King, 1991; Owens, 2010) as well as the leadership style of an individual senior policy maker (Berson et al., 2006; Preston and 'tHart, 1999) for learning on the individual level among lower-ranking colleagues. These factors are further influenced by the previous experience and knowledge public entrepreneurs and senior officials have.

Numerous actors are involved in the policy making process across multiple levels of governance (Hooghe and Marks, 2001). The central importance of knowledge in policy making becomes visible (Braun, 2009; Dunlop, 2009; Radaelli, 1995; Owens, 2010) when the actors involved in policymaking are considered such as experts, lobbyists (business, unions, NGOs), civil society, other government departments from the national, state and local levels, members of parliaments and political parties (Stone, 2000; 2005). Some of these actors have existing networks and act as policy entrepreneurs as they are personally convinced that their policy is the right thing to do and they possess the necessary expertise and credibility to persuade other actors – or at least the network to call upon such experts. As 'educators' and learning brokers, policy entrepreneurs teach others about the importance of addressing the policy problem, convince them and gain their support (Braun, 2009; Schneider and Teske, 1992).

Policy makers regularly communicate with their networks (Braun, 2009; Fawcett and Daugbjerg, 2012; Eppink, 2007). This regular process of information exchange and discussion of experiences provides a stimulus that facilitates an increase in knowledge and allows policy makers to profit from the experiences of other policy makers who willingly share their lessons learned and encourage policy transfer (Dolowitz and Marsh, 1996; 2012; Rose, 1991; Stone, 2000). Learning via networks (March and Rhodes, 1992; Stone, 2005) can thus result in cognitive learning based on communication and an atmosphere that encourages mutual learning. Similar to policy entrepreneurs, the leadership skills of policy makers are essential, especially when they are in a position where they are required to coordinate and guide other actors within the network (Tallberg, 2010).

A number of conditioning variables determine which type of learning occurs. Especially on the higher levels of decision-making, the expertise and experience policy makers bring into the network (Braun, 2009; Owens, 2010; Radaelli, 1995) are an important determinant for further learning from a cognitive learning perspective. If policy makers already have high expertise in their area of responsibility, they are less dependent on advisors, can quickly judge the merits of policy proposals presented to them, make effective contributions to solving the policy problem and can be more convincing in negotiation situations as they can themselves estimate the value of the other side's arguments and proposals. If the policy maker is dependent on advisors, policy briefs and speech notes to negotiate and make decisions and/ or lacks experience in policy making, it is difficult to achieve a high change in knowledge and experience given the high time constraints that leave only little room for reading, reflection and time consuming skill development through repetition, which can result in defensive avoidance (Janis and Mann, 1977). Decisions can then be based on mispercep-

tions, superficial impressions of the topic without a deeper understanding of relationships, resulting in wrong decisions and negative consequences for solving the policy problem (Janis and Mann, 1977).

A culture of information exchange and institutionalised knowledge management prevents the loss of knowledge that has been gained by actors, especially when they transfer to posts outside the active network (Argote et al., 2000). It also facilitates the integration of actors that are new to the network, the issue area or the specific policy problem. They can more easily increase their knowledge on the issue and also expand their horizon by listening to accounts of network members who have accumulated significant knowledge and are willing to share their insights (Peet, 2012). Inside the network, there can also be factors with a rather negative or hindering effect on learning. The institutional capacity of a policy maker's organisation determines how much time the policy-maker can spend with other members of the network and influence both learning inside the network and the positions of other actors relevant to solving the policy problem. If the policy-maker is under time or resource constraints, it can be very difficult to participate in the network effectively and to the intensity required to influence other actors (Easterby-Smith, 2005; Janis and Mann, 1977).

Figure 5 illustrates the relationship of the core conditioning factors for learning that determine which kind of learning occurs at either the individual, institutional or socio-political level. The following section discusses the three key factors for a certain type of learning to occur and their related further conditioning factors in more detail. By linking the relevance of policy entrepreneurs, networks and leadership style to the learning types, this section makes a distinct contribution that goes beyond existing literature and the discussion of gaps in the literature.
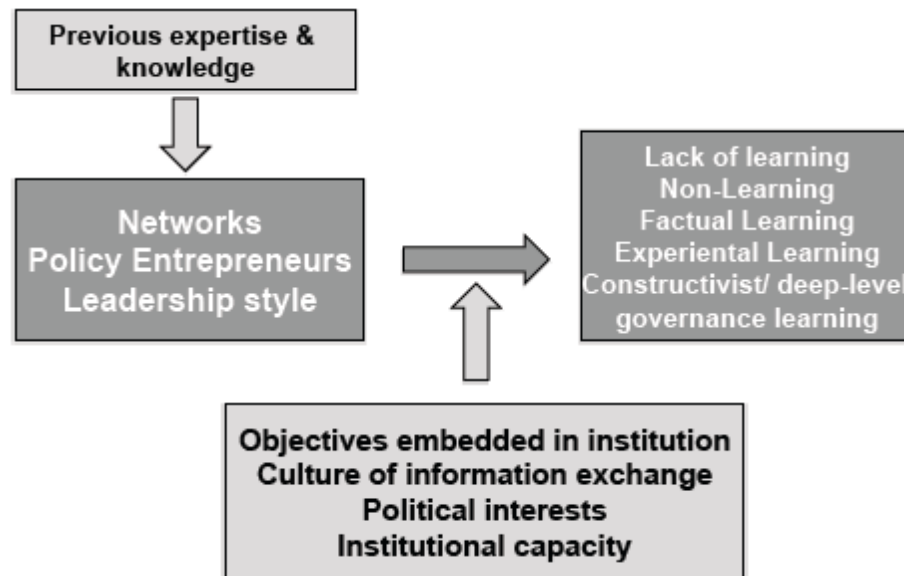
*Figure 5. Key factors that determine learning in the policy making process*

*Resulting analytical framework to determine learning in policy making*

The previous sections have systematically developed a theoretical framework to detect and measure learning in the policy making process. They outlined the overall learning process in policy making, types of learning resulting from the conceptualisation of learning as changes in knowledge, experience and underlying beliefs and perspectives with the related learning types of non-learning, factual learning, experiential learning and constructivist learning. These are criteria to detect the types of learning in the policy making process. The final section re-conceptualised the distinction of learning theories as either individual or collective levels of learning and linked them to factors that facilitate or hinder learning. Table 1 provides an analytical framework for the analysis of learning in the policy making process. The combination of the three levels and the four learning types leads to twelve possible instances of learning.

| | Non-Learning/ alternative explanations | Factual learning (change in knowledge) | Experiential learning (change in experience) | Constructivist learning (change in underlying beliefs and perspective) |
|---|---|---|---|---|
| **Socio-political level** | | | | |
| **Institutional level** | | | | |
| **Individual level** | | | | |

*Table 1. Analytical framework to determine and measure the type of learning that occurred on the individual, institutional and socio-political level. Compiled by author.*

Learning among policy makers can consequently be determined, thus answering the core research question of if, when and under what conditions learning occurs in policy making. The four learning types across the three different levels can be identified via process tracing (George and Bennett, 2005) the development of one policy from its origins to the legislative outcome. This allows tracing the behaviour and activities of actors within a policy making process by interviewing them about their changes in knowledge, experience and underlying assumptions while being involved in the drafting and/or negotiation of the policy and related policies if the examined policy is part of a wider policy evolution.

The findings can be triangulated with the accounts of the other actors as to what extent they were influenced by the key actors. These actors include policy entrepreneurs, lead negotiators, politicians and civil servants occupying key roles in the early stages of the policy cycle. It is crucial to control for alternative explanations to learning such as the institutional objective, political interests, deals in the negotiations and hindering factors internal to the organisation. Further questions that help detect

learning and determining which type of learning occurred on what level relate to the extent of which a policy-makers' perspective changed based on instructions from higher levels of hierarchy, interactions in networks and wider societal consensus.

*Conclusion*

Learning can occur at the heart of policy innovation or within a wider process that diffuses policies across multiple levels of governance. This paper examined if and under what conditions policymakers learn. It opened the remaining 'black box' of learning in policy making by illuminating how learning in policymaking can be detected. The contribution proposes a theoretical framework that allows determining if and how decision-makers learn in the process of policy making. Learning among decision makers only occurs if these reflect upon new information provided to them through an experience or increase in knowledge and, as a consequence, if an increase in knowledge, experience and/or change underlying assumptions can be identified among the decision makers and they thus come to a different view of the situation (Argyris and Schön, 1978; Bennett and Howlett, 1992; May, 1992; Sommerer, 2011; Zito and Schout, 2009). Networks, policy entrepreneurs and the leadership style within a governmental institution are identified as decisive conditioning factors that determine which type of learning occurs in a given policy making process.

When discussing learning in a policy context, there is also an underlying normative connotation as to what extent learning is necessarily a positive process that leads to self-sustaining processes with normatively 'good' outcomes for society. Policy makers could also learn how to design policies with negative consequences for the environment, economy and society. As with the critical theory discussion regarding

'governmentality' (Held, 2002; Foucault, 1991) and questions of accountability, transparency (Mason, 2006) and an inherent democratic deficit that comes with influential civil servant policy makers, a normative question emerges whether learning in policymaking is desirable. This informed normative discussion as to what extent learning among policy makers is positive and socially desirable as well as the necessary discussion regarding legitimacy, accountability of unelected top-decision makers and input by self-selected policy entrepreneurs to the decision-making process with implications for a democratic deficit in policy making is a key implication for further research based on the findings presented here.

Thus, it is important to be capable of detecting learning among decision-makers and determining what type of learning occurs under what conditions. Resulting policy implications are that normatively 'negative' learning can be spotted more readily and can subsequently be addressed through alteration of the conditions and incentives that facilitate this kind of learning. Moreover, normatively 'positive' learning can be linked to policies furthering sustainable development and the overall public good. This normatively 'desirable' learning can be encouraged and facilitated when setting corresponding incentives for policy-makers by adapting the framework conditions of the policy making context.

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