Shared Knowledge Construction in Heterogeneous Groups

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1 INTRODUCTION

The goal of participative planning processes is to find sustainable solutions in organizing physical space. To develop a base for decisions it is necessary to get knowledge about social and physical usage of space.

Knowledge construction, decision making, acting, and the bearing of responsibility are immediately connected within the several planning steps. The planning group at the initial of the process usually is a heterogeneous group and consists of person in charge, planners, and of people affected by a planning intention. The outcome of participative planning processes should be a special form of collaboration organizing social and physical usage of space. Therefore a shared knowledge construction is the first step of a successful public participation.

Within heterogeneous groups we need communication structures for receiving and sending information, we need structures for building trust in the information, and we need structures to enable the participants to transform information into knowledge. Information has to be emotionally and cognitively perceived and accepted to reach a shared knowledge construction, and to arrive at decisions on future plans. The participants have to experience immediately the outcome of first decisions to strengthen the base of common action.

This paper analyzes the design of an open planning structure that is not based on an initially strived for consensus. An open planning process tries to enlarge usually used communication, interaction, and decision making structures of a village. The hypothesis focuses on the possibilities of development of the interaction base within the heterogeneous group, based on the assumption that an initially intended consensus restricts possibilities of development. Related to the question if a shared knowledge construction needs a consensus, I point out different theories of my latest research. Aspects of participative planning processes, the role of a planner, and cooperation ideas are pointed out in the next section. The third section considers different group structures and dynamics. The fourth section deals with phases of knowledge construction during a planning process with heterogeneous groups.

2 PLANNING PARTICIPATION AND COOPERATION

Planning as an instrument for preparing decisions depends on various factors. It happens in a social system of different pressure groups. There are advices, rules, administrative and technical restrictions, right in ownership and neighborhood. There are political influences or also competing projects.

Decision making, acting, and bearing responsibility are connected processes within the planning group. A planning group consists of responsible person, planners, and of people affected by a planning intention.

2.1.1 Open Planning Process

A moved planning process (Rottenbacher 2004) is one possibility to organize an open planning process. Within this procedure, joint activities of the group help to concentrate the mutual communication in a concrete situation, in Here and Now. In the moved planning process the joint activity is a common walk before sitting together and deciding the next steps of planning. Movement strengthens verbal and nonverbal communication. This communication orientates on mutual experience and an emotional correspondence (Rottenbacher 2005).

Theories of Merleau-Ponty (1966), Johnson (1987), and Goldstein (1934, 2000) describe the communication process as an embodied process (Johnson 1987). If a heterogeneous group meets the bodies of participants gives information about state and attitude. Persons meeting in concrete situations simultaneously perceive, decode, and make decisions on acting in the daily environment. Concrete experience increases an “inter corporal” existence of the group (Merleau-Ponty 1966). A heterogeneous group also experiences this inter-corporal existence during joint activities. The immediate behavior evokes primarily patterns of existence and less patterns of thinking. Different constructions remain as different concepts but new experiences, understanding, and knowledge are shared (Johnson 1987). A growing group identity enables a shared knowledge construction.

2.2. Role of Planners in Participative Planning Processes

Planners have to work in a field of different interests and have to develop a common space for acting. In participative planning processes planners have to care for an understanding of several steps of informing and decision making. Further, planners have to strive for sincerity, without creating new dependencies, shall not manipulate, nor use traditions to legitimate actions. They have to show cost, benefits and risks of each decision as correct as possible (Lanz 1996).

Building up a planning process on human resources (skills, knowledge, ideas) of the various participants contributes to the development of self responsibility and self initiative. The idealistic assumption is that the possibilities of influence and decision making are growing and enable a planning process between an orienting concept and a patchwork of decisions and actions. The orienting concept corresponds with the various spatial developments that can be solved here and now within a concrete task:

> *“This orienting concept is characterized through an orientation in values, and simultaneous decision making and acting.”*

(Young 2000, p.104)

The planning group consists of heterogeneous participants. There is no shared language, no shared way of looking at issues, no common assumptions. Every participant brings her histories and perspectives unfamiliar to each other within the group. From the beginning we have to look at differences and commonalities, to prevent a turning from many to one:

> *"The definitive quality of the public space is particularity: that the plurality of perspectives that constitute it is irreducible to a single common denominator. A claim to decisive authority reduces those perspectives to a single one, effectively discrediting the claims of other political actors and closing off public discussion. Meaning is not inherent in action but public, which is to say, constituted by the interpretative contest among the plurality perspectives in the public realm that confer plurality on action and thereby make it real".*

(Disch p.111, in: Young 2000)

To transform single needs and interests to a more comprehensive understanding that takes other needs into account it is necessary to look at the process of shared knowledge construction in groups. Participants cannot transcend their particularity (Young 2000). If participants make decisions appropriate to their personal context, they need to get mental space to express their particularity to others and learn about the particularities of the other.

This leads to a shared knowledge based on concrete situations (Haraway 1991). Participants have particular knowledge that arises from experiences about objects and about meanings and functions, and social roles. For example, they make experiences with their social positions and those social positionings influence the assumptions and interests they bring to the meeting.

2.3 Consensus

The goal to reach a consensus based on an initially assumed common good in various, heterogeneous groups from the beginning restricts the shared knowledge construction to a least common denominator. Here social difference and variety are considered as a resource (Young 2000).

Within a heterogeneous group we need structures to get and give, and to understand information. We need a design of a planning process within which the participants are able to recognize relationships and connections. This design has to have a clear structure for orientation and building trust.

With the postulated common good decisions are developed upon supposed commonalities of the group. Variety is leveled and disregarded if we try to find only commonalities for reaching a consensus. This leads to discussions, to argumentations. Emotions are avoided, and the objective is to collect rational statements. With the insights from cognitive science and other disciplines we know that knowledge construction and decisions are not made rationally. Decision making in groups follows a process of valuating topics with emotions, and reflecting and rationalizing intellectually (Dreitzel 1992).

The Human Theory of Action (Goldstein 2000, 1934) describes a human as an organism-environment entity. A human is embedded as a body-mind person in a social ecological environment. Experiences and knowledge are stored up in the body, and used in each concrete situation. Related to these concrete situations are the possibilities of experience, of reflection, and of imagination. According to this theory knowledge construction and action are connected immediately. A human is active, orientated to the future. She puts her own theories and goals, and makes hypothesis about the outcome of her acting in everyday acting. These hypotheses are verified through acting, and a correction of the action. Integrating these concepts in a planning theory, we have to consider how to organize the steps of decision making, and an experiencing of the outcome of these decisions in the design of a planning process. Decisions in heterogeneous groups and the experiencing of the outcome lead to a growing shared knowledge construction of the group (Johnson 1987), and should be made continuously during the planning steps (Schilling 1973).

2.4 Cooperation

In complex environments, planning processes are complex; participants are not fully able to analyze the situation "rationally" and decide for "optimal" solutions.

One theory used by Axelrod (1997) describes an adaptation of a common strategy like an evolutionary development. Based on the assumption that each individual looks for a repeated fulfillment of her needs (Maslow1954, 2002) and orientates her actions in surviving (Maturana 1998), Axelrod arguments biologically that interactions within groups that have been relative effective become more widespread than strategies that have been less effective.

One known example for cooperation from Axelrod (1997) is the simulated experiment of "The Prisoner´s Dilemma". Within this experiment two individuals can each either cooperate or defect.

> *"The payoff to a player affects its reproductive success. No matter what the other does, the selfish choice of defection yields a higher payoff than cooperation. But if both defect, both do worse than if both had cooperated."*

(Axelrod 1997, p. 15)

In a planning situation the individuals meet more than once. They can recognize previous interactions, remember outcomes of first decisions and actions, and develop interactions more and more focused on cooperation. This concept contributes to a design of planning participation with concrete meetings, with concrete experiences, decisions and actions, and a shared experiencing of the outcome of the decisions.

Cooperation is oriented between self interests of the participants and the common interest of a group that mostly does not exist at the beginning of a planning process. To get orientation, to build trust in the process, and to participate they need personal emotional relations towards some topics and towards each other (Rottenbacher 2004). The back and forth between self interests and group interest determine the dynamic of the meetings. Lewin (1951) describes in his field theory that this dynamic is based on[G1] and changes because of new common experienced facts.

3 GROUP STRUCTURE AND DYNAMICS

A heterogeneous group is determined by group characteristics and participant characteristics. Groups consist of individuals. Each individual is looking for security, communication, acceptance, acknowledgement, and cooperation. The dynamic of a group is more than the sum of the actions of participants (Lewin 1951). There emerges a dynamic, independent of the possibilities of the participants.

3.1 Group Structure

Structures of the heterogeneous group are built by the "I" of the individuals, by subgroups, and by the whole group. These structures influence the process of decision making. In the moved planning process several individuals can experience the changes of their environment, the outcome of their interactions, as immediate effects of acting. The bodily experience in the concrete situation enables, that "I" express the knowledge about this situation. It is possible that the expressions are seen and understood by others.

The integration of new emotional and cognitive experiences in the heterogeneous group are contributed, and:

1. Participants experience a personal development. Social interactions have an effect on personal development. The effects increase a self-organization of the group.
2. Participants experience repeated processes of socialization. They experience improvement, enlargement, and confirmation of their behavior, attitude, and acting (Schmid 1996).
3. The behavior of the participants depends more often on the actual situation than on previously developed thinking and feeling patterns. They speak more about current experiences and less about abstract opinions acquired from outside sources.

3.2 Group Dynamic

In an open planning process everyone should get the possibility of personal experiencing, communicating, and acting. Everybody should find space for personal needs, wishes, objectives, and tasks. Everyone is an expert of his or her personal life and must be respected for this and his contribution encouraged.

The first decisions at the first encounter in a participative planning process lead mostly to first realizations. The experience of the outcome of acting together develops a spiral of decisions, each related to realizations, which changes the base of interaction patterns of the group, the trust, and the tolerance for frustrations for further actions (Rottenbacher 2004).

The main resources of group influence to increase dynamics are the personal attendance, the public obligation, the social contribution, and norms of the group. Independent of participant characteristics the participants take roles depending on group structures, emotions, affections, likes and dislike. During usual participative meetings participants sit around a table and expect motivation and ideas form the planner. They sit beside friends, building subgroups repeating the social structure of the village. These subgroups remain mostly constant during the meeting. There are few possibilities for dissolving the groups and that the participants experience themselves mutually in a new context. To create concrete situations for new experiences one possibility is the moved planning process (Rottenbacher 2004).

During an open planning process participants should get the possibility to experience each other mutually in a common acting. Their shared emotional state can increase and leads to a shared knowledge construction.

4 KNOWLEDGE CONSTRUCTION IN HETEROGENEOUS GROUPS

Concrete experience increases an inter-corporal existence of the group. This inter-corporal existence is the basic human experience of relationship. This existence contains all information of experiences and knowledge, and influences our feeling, thinking, and acting patterns. In this inter-corporal existence you can feel, see, and interpret the actions and intentions of other participants, you integrate experiences, and construct knowledge.

4.1 Symbolic Meaning

Our civilization is based on the construction of meaning, which influences the ideas of people and their daily acts. These constructions document the personal and social process of perception, appropriation, identification, and integration. In the mutual experience of concrete situations communication is based on the expectation that all participants share this knowledge about capacities, practices, and stances towards objects. The symbolic meaning of roles, things, and situations motivate movement and actions, and give a shared orientation.

The capacity of people to understand the acting of the other is an evolutionary adaptation. Individual development differentiates from common actions. Older experiences are brought in as common sense and symbols, used like gestures or words, get their meaning from the context implied and understood.

During concrete experiences the meaning of symbols is related to the ever changing shared experiences. The previously constructed reality of individual participants often differs from the encountered reality during the walk. Differences can be pointed out and erroneous conceptions corrected. For example, I see plants that indicate the usage of nutrients and can inquire about fertilizer usage. The feedback from the visible evidence forces the participants to learn about the consequences of their actions. In our shared experience and speaking about it we explain our realities.

We progress from collecting data and abstract concepts to a common experienced reality. This ultimately touches upon the feeling of identity of the people affected. I am able to show them in which relationship their ideas stand to attitudes of society at large and norms, which are manifest in the use of space, and in the use of land.

4.2 Base for Knowledge Construction

Imagination and understanding emerges from our embodied experiences. Human bodily movement, manipulation of objects and interaction, integrate recurring patterns and develop new ones. We are able to integrate information and transform it into knowledge in a mutual understanding. Joint activities bring up joint experiences. We manipulate objects and interact in the group.

We are never separate from our bodies. Our bodies have been ignored in discussions about communication and decision making because they seemed to have no role in reasoning and understanding.

> *"The body has been ignored because reason has been thought to be abstract and transcendent, that is, not tied to any of the bodily aspects of human understanding"*
>
> (Johnson 1987 p.132)

This concept is the backdrop for the assumptions about understanding, decision making, and knowledge construction processes among participating persons. We are able to integrate information and transform it into knowledge in a mutual understanding. This transformation is also a bodily transformation. The experiences are stored in our bodies (Merlau-Ponty 1966). Joint activities bring up joint experiences; we manipulate objects and interact in the group. Experiencing actions together leads to a common knowledge construction.

4.3 Shared Knowledge Construction

The change from a collection of common goods, leveling variety for a consensus in least common denominator, to a shared knowledge construction of a heterogeneous group becomes apparent in behavioral patterns, through acting, and a growing group identity.

Structures of social interaction are opened and renew the base of contact. The participants experience themselves mutually within every new meeting; they experience the concrete situation, make a common decision about this situation, and experience the first outcome of the decision.

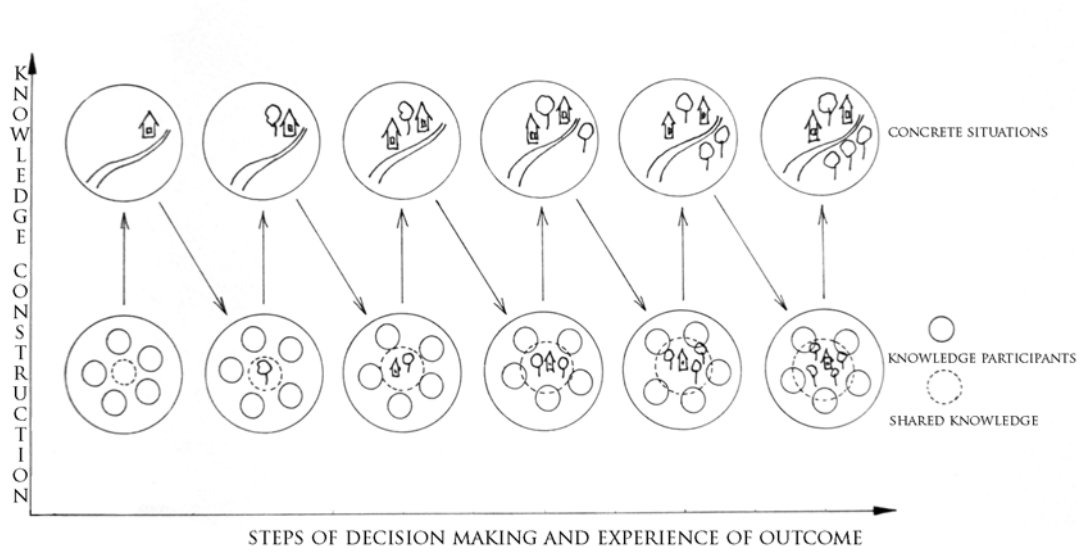

Fig.1: Shared knowledge construction

The knowledge the participants just brought with them, their constructions, their feeling and thinking patterns, remain. The concrete experience enlarges the shared knowledge (Johnson 1987).

Further the participants develop slightly changed roles and test them in new behaving patterns. This is the pre-condition: they are able to perceive new contents and information, and integrate it into their personal experience, knowledge, and acting. This flexible interaction enables to anticipate and imagine the future, to make decisions, to act, and to experience the outcome step by step. In the course of multiple meetings subjective and objective meanings are developed, corrected, and confirmed. Shared experiences, behavior, decisions, and acting grow during this planning process, and can lead to a shared knowledge construction of a heterogeneous group.

5 CONCLUSION

The objective of participative planning processes is to develop a common goal in physical space. To develop a common goal it is necessary to get knowledge about social and physical usage of space. Knowledge construction, decision making, acting, and the bearing of responsibility are immediately connected within the several planning steps. The planning group at the initial of the process usually is a heterogeneous group and consists of responsible persons, planners, and of people affected by a planning intention. They bring with them different knowledge about the circumstances and do not have a base for interactions in that special heterogeneous group. The outcome of participative planning processes should be a special form of collaboration organizing social and physical usage of space. Therefore a shared knowledge construction is the first step of a successful public participation.

Within heterogeneous groups we need communication structures for receiving and sending information, we need structures for building trust in the information, and we need structures to enable the participants to transform information into knowledge. Information has to be emotionally and cognitively perceived and accepted to reach a shared knowledge construction, and to arrive at decisions about future plans. The participants have to experience the concrete outcome of first decisions to strengthen the base of common action.

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