

Using a Micro-Developmental Lens to Assess Dynamics of Scaffolding in a Facilitated Group Process

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Abstract: This study provides insights into the facilitated environment as it unfolds, and serve as an exemplar of how coactive scaffolding between participants, facilitator, methods and tools can take place while and by working on a complex issue. The paper presents a case study involving representatives from different organisations gathered for the task of developing action plans to a challenging issue of public concern. The purpose of the study was two-fold. The first was to gain insights into scaffolding dynamics between a facilitator and a diverse group of stakeholders during a series of meetings. The second purpose was to track knowledge integration through moment-to-moment interactions in the scaffolded group meetings. The Integral Process for Complex Issues, a group process designed to progressively enable an increased task complexity awareness, was used to scaffold the group meetings. For the analytical purpose of tracking the moment-to-moment interaction a micro-developmental lens was adopted. This lens provided detailed clarity into how the participants, the facilitator and the methods, coactively scaffolded the generation of new and more complex knowledge through a series of transition steps. The theoretical analysis suggests that the group members built and transformed their understanding in a non-linear fashion, resulting in a higher level of integrative complexity.

Keywords: Coaction, group facilitation, microdevelopment, scaffolding, transition processes

Introduction

Facilitators constitute a diverse, and loosely interconnected collective. Their roles span across various domains including academia, the public sector, private sector and civil society (Westin, Hallgren & Montgomerie, 2023). The support a facilitator provides, either without, or with a form of a structured method, can be talked of in terms of *scaffolding* (Jordan, 2016). Many of the various kinds of scaffolding employed by facilitators have been crafted by experienced consultants, drawing from their wealth of accumulated expertise. While some scaffolding methods may incorporate insights from research, few can be classified as research-based (ibid). Although there is a growing number of studies that overview and evaluate different facilitated group processes, empirical analyses and descriptions of how knowledge is generated through *moment-to-moment* interactions have not been as thoroughly investigated (Franco & Nielsen, 2018; Mengis & Eppler,

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2008). The scarcity of studies that draw on observations of actual facilitation practices is concerning, as practioners often develop tacit knowledge (Polyani, 1958) that is left unarticulated, especially as it may be challenging to account for what happens within practices beyond their contextual boundaries (Jahnke, 2014). When researchers act as facilitators, their espoused methodology (i.e. the approach and set of methods used) may also prevent a clear elucidation of the methodology in use (i.e. the actual methods that are practiced in a given context) (Midgley, 2000). In order to effectively support multi-stakeholder groups that are tasked with developing well-informed action plans, the step to understand what happens in meetings where stakeholders share their knowledge – i.e. within the facilitated environment itself – remain to be one of importance. Studies of scaffolding that aim to support work groups' capacities to constructively manage task complexity are of particular relevance, given their urgency and difficulty to handle without appropriate support (Andersson, 2018; Andersson & Palmer, 2023; Ross, 2007; Inglis, 2007, 2008). Researching into what goes on in situ may hence enable us to take a closer look at dynamics of scaffolding that otherwise may be lost, in order to both understand how collective understanding and knowledge integration occurs over time, and how it is scaffolded.

The aim of this paper is two-fold. The first aim is to elicit understanding of scaffolding dynamics as they emerge in situ. The second aim is to analyse how knowledge integration occurs through a series of group meetings. To understand processes of knowledge integration in groups calls for approaches that stay with a given group process over a period of time, as knowledge integration does not takes place at a specific juncture within a process, but rather encompasses the process itself (Repko, 2008). This paper, therefor, adopted a microdevelopmental approach. A microdevelopmental perspective is well-suited, as it enables the study of processes whereby knowledge, understanding and other abilities change during short time spans (Granott & Parziale, 2002; Mascolo, 2017). Moreover, with a microdevelopmental lens it is possible to uncover dynamics of how knowledge is shared, linked and, potentially, integrated into a higher order synthesis.

The stakeholders that partook in the study were personnel from the public sector; more specifically the ambulance service, SOS emergency central and the police department. Their task was to find sustainable action strategies for handling urgent incidents where an assembly point for the police and ambulance personnel was deemed necessary in order to reduce risks of violence towards ambulance personnel, while simultaneously attending to citizens in critical need of care.

As a result of tracking transitions in communication, this study elucidated the role of *coactive scaffolding* between stakeholders and facilitator, in creating a more complex, coordinated and articulated understanding of the issues of concern the group was tasked to investigate. The case implicates the usefulness of a microdevelopmental lens in offering a conceptual tracking-tool when analysing moment-to-moment knowledge generation in group meetings. Such understanding may prove a valuable tool for assessing scaffolding, especially when groups' tasks implies a need for thorough perspective taking, a productive stakeholder collaboration across institutional boundaries, and transformational learning.

In what follows, I first delineate some of the pertinent challenges when sharing knowledge in multi-stakeholder groups. This discussion is followed by an explanation of the concept and functions of scaffolding in group processes. Thereafter, I describe the microdevelopmental framework that informs the research methodology that was used in the study. I then present the

case as an ‘analytical narrative’ of transcribed quotations from speakers who participated in the group interactions. I conclude the paper with a discussion on implications of coaction of knowledge in facilitated group communications.

Perspectives on Important Functions of Scaffolding in Group Collaborations

The diversity of perspectives within multi-stakeholder contexts is both an asset and a requirement for addressing shared problems during meetings – particularly when addressing complex issues (Ross, 2007). However, while it may be evident that a group can contribute with more complex knowledge than any individual alone, it is not a given that the ‘cognitive product’ is better (Hatano & Inagiki, 1991, in Granott, 2005). A group interaction may instead result in knowledge gaps that make the joint process less productive than what an individual or other group might have been able to generate. When project teams are made up of experts from different subject areas, the specialised knowledge group members bring to the table involves different *boundaries* that need to be translated (Carlile, 2004; Franco, 2013).

The quality of interaction between stakeholders depends on both their preparedness to listen to each other and their capacity to *combine* their knowledge in such a way as to create more complex knowledge together (Shaw, Ackermann, & Eden, 2003). When group members are motivated to consider and build on each other’s knowledge, allowing for a mutual influence, this has the quality of *productive dialogue*, and a *relational engagement* (Tavella & Franco, 2015; Tsoukas, 2009). *Unproductive dialogue*, on the other hand, contains fragmented and isolated contributions, such as the case of parallel conversations. Different types of contributions by stakeholders may be more or less difficult to piece together into a comprehensive, collective understanding. The failure to resolve problems in multi-organisational groups may consequently be caused by a lack of overlapping knowledge that the group members can build on. Further, the inability to *link knowledge* between participants may constitute an important reason for unproductive dialogue or inertia.

To facilitate a work group of diverse stakeholders requires both skill and the willingness to explore new terrains and as a facilitator one may ask what difference one may contribute with when faced with a challenging group process. To overcome obstacles for intersubjective learning to take place in group collaborations, facilitated models may act as a scaffolding; as a means to reach higher levels of complex interaction and decision capacities than what would otherwise have been possible. This may prove a helpful asset, especially for less practiced facilitators and groups (Andersson, 2015; Andersson & Palmer, 2023).

As a concept, scaffolding was first used within cognitive psychology to indicate the structuring and developmental outcomes that adults, or more advanced peers, may have on younger learners’ activities (Bruner, 1973; Wood, Bruner & Ross, 1976). Since the 70s, scaffolding has been adopted more widely, to indicate different forms of supportive interactions. In the context of groups, scaffolding has come to include different methods, tools and facilitation that support learning and decision-making (Andersson, 2018; Jordan, 2016). Today, there are a wealth of methods that offer structure and tools to assist groups in developing their collective capacities to tackle challenging issues (see Holman, Devane, & Cady, 2007). A method may be structurally designed to support

certain functions through a step-wise design, and while some require no or little facilitation, other methods require more active and skilled facilitation. Different approaches of scaffolding and facilitation can be used in a group to enable a transformation in the understanding of both the context of an issue of concern, as well as various relational elements within it (Eden, 1992a, 1992b; Shaw et al., 2003; Turunen, 2013). For example, to facilitate a group's sustained focus, such as the consideration of causes and consequences, may enable more in-depth understanding of an issue (Ross, 2007). Artefacts and models are often used, such as flipcharts, different styles of mapping and illustrative metaphors. Such tools are also significant for supporting conversations and can be viewed as performing functions of scaffolding by enabling multi-stakeholder groups to develop shared knowledge across the boundaries of their specialised knowledge (Franco, 2013).

An important aspect of scaffolding is to actively encourage the participants' capacities for linking knowledge and provide assistance in the translating of specific specialized knowledge from one stakeholder to another. Initially, another important function is to facilitate the negotiation of agreements on relevant boundaries for the discussion; such as a focused issue question, and to consequently support participants to maintain such focuses (Midgley et al., 2013; Ross, 2007).

The Integral Process for Complex Issues

The integral process for complex issues (abbreviated as TIP; see Ross, 2006) is the name of the structured process that was used as the scaffolding to assist the multi-stakeholder group that partook in this study.

A central theoretical underpinning of TIP is to provide a progressive sequence of activities designed to support the development of more complex capacities for dealing with public issues (Ross, 2007), based on hierarchically arranged assumptions of complexity (Commons, Miller, Goodheart, & Danaher-Gilpin, 2005). This means that complexity awareness of issues develops using 'the progressive, dialectically-nonlinear dynamics of development itself' (Rooss, 2008, p.218). Ross names this a 'meta-intelligent reasoning' which is sustained by a series of distinct scaffolding dynamics integrated within the process itself. The practical process entails dynamics like *identifications* of distinct issues and sub issues; *iterations* – as tasks consist of several subtasks that need unpacking in iterations on different levels of integral attention and selections – and as a *developmental design*, indicating that the task complexity increases gradually as each task consists of the building block that the next tasks depend upon. By its modularity, TIP offers flexibility and tailoring of the practical involvement of stakeholders.

Coactive Scaffolding

Depending on perspective, scaffolding as a concept can direct the focus to different aspects of analyses of conditions for learning and development. When a group process is constructive, the participants build on each other's inputs in ways that fill a joint scaffolding function; a *coactive scaffolding* (Mascolo, 2005). A coactive view on scaffolding enables an understanding of the dynamic, emergent and open-ended nature of the development of knowledge. A *coactive* system model can be used for 'the assessment of the coaction among elements of the person–environment system in real time' (ibid, p. 194). From a systems science perspective, the role that any part plays in a relational developmental system is a function of all of the interpenetrating and co-acting parts

of that system. This implies that when a system becomes more complexly organised, it is a result of the reciprocal actions among the parts (Mascolo & Fischer, 2015). With *the group in its environment* as the unit of analysis, scaffolding acquires added implications. For example, how group members collaborate to generate knowledge also becomes a question of how their meaning-making is co-scaffolded through their interactions. At a microdevelopmental level the focus turns to how this shows up as variability in the dynamic structures of their verbal communication. From this point of view, structuring methods, facilitators, artefacts, models and participants need to be viewed and analysed as an interactive wholeness. While it is not possible to predict which contributions group members will make, choose to explore, manage to link, reject, or incorporate to higher levels of understanding, it may be possible to track the structures and transition processes in which these contributions occur. By doing so, we may also gain more understanding about important dynamics of scaffolding.

Studies of Dyads and Groups

Within the field of adult development, few studies have analysed collective knowledge sharing and decision-making within group processes at a microdevelopmental level. An important contribution to the field was made by Granott (1993, 1998b) who used Fischer's skill theory (1980) to analyse the results of a group experiment. Granott let groups meet and try to work out the functioning of Lego robots called 'wuggles'. There were several different robots that responded in different ways to input such as light and movement, and the participants' task was to collaboratively work out the wuggles' functions. The findings represent patterns of interactions and knowledge production of a group that was tasked to solve a *complicated* task with *defined* boundaries regarding the goal. Basseches and Mascolo (2010) investigated coactive scaffolding within the dyadic setting of the psychotherapist–client environment that led to new insights for the client. They investigated *complex tasks* with *open-ended goals*. This study involved a multi-stakeholder group that was tasked to solve a *complex task* with a *defined goal* and differs in that sense from these previous studies.

Transition Processes

To understand how group processes produce novel forms of knowledge and understanding, it is necessary to understand how they operate over time, which studying *transition processes* may enable. Transitions occur at different time-scales as processes of coordinating information; these can be short as well as life-long processes of re-evaluation of values. Importantly, transition steps are involved whenever a new, more complex decision is being negotiated (Ross, 2008, 2014). The study of transition processes span several fields: microdevelopmental studies of learning and development, adult developmental models of hierarchical complexity and dialectical processes, as well as non-linear sciences (Ross, 2014). Within these fields, different methods for tracking and coding transitions have been developed. The neo-Piagetian tradition has delineated transitions from less complex to more complex stages (Commons & Richards, 1984) by focusing on hierarchical development. Microdevelopmental studies involve systems approaches of studying humans as developing dynamic systems. Using a microdevelopmental analysis enables the tracking of information processing through their transition dynamics and detect whether or not information really is coordinated. In studies concerned with collaborative processes, microdevelopmental researchers have analysed dyadic processes and ensemble processes for coding knowledge sharing

and decision-making (Granott, 1998a, 2005). Basseches and Mascolo (2010) developed dialectical methods for tracking the evolution of higher order structures through phases of differentiation and integration in the two-person system of psychotherapist and client.

A commonality across the fields, as pointed out by Ross (2014), is the linearity and time-dependence of the measures of transitions, with the exception of the coactive systems coding process that was developed by Basseches and Mascolo (2010) and the fractal transition approach that was developed by Ross (Commons & Ross, 2008; Ross, 2007, 2008). Ross (2014) states that: ‘Independently, these researchers found that the true nonlinearity of human behaviour is perhaps best revealed by using methods that track the structure and process of changes, regardless of their time stamp’ (p. 29).

Tracking Transitions

One such method for tracking developmental transitions in systems of meaning consists of the TACS system developed by Basseches and Mascolo (2010). TACS refers to the dialectical process of Thesis → Antithesis → Conflict → Synthesis² (Mascolo, 2017) and is a model for analysing as well as elucidating how transitions between thesis, antithesis, conflict and (a higher order) synthesis occur. A *thesis* refers to any statement or assertion that is the starting point of a process. By identifying the emergence of a thesis and tracking each action that can be associated with it, interactional dynamics that would be invisible from a linear time-dependence on the coding procedure can be uncovered. In the example of the stakeholders in this case study (as explicated below), their initial thesis-statement was: ‘we do not speak the same language’³. A thesis is considered the starting-point, meaning that it does not appear in direct response to a previous statement. An *antithesis* is any statement that creates a differentiation to a thesis (or to another antithesis). ‘We do speak the same language’ would constitute an antithesis if it had been posed as a precise response to ‘we do not speak the same language’.

The first type of antithesis is called *opposition*, as in the above statement. In TACS, there is a second type of antithesis, which is when *distinctions* (rather than opposition) are given to the meaning of a given thesis. Continuing from the above example, a meaning distinction could be: ‘We use different terms’. From any antithesis further antitheses can be generated, as oppositions, or as distinctions. Mascolo describes that: ‘Meaning elements can be coordinated in either conflicting or non-conflicting ways. As meanings develop, individuals can invoke a thesis and its antithesis without being aware of any conflict between them’ (Mascolo, 2017, p. 229). When, on the other hand, an opposition between thesis and antithesis are brought together and represented in awareness, it is named as *conflict* in the TACS system.

A thesis can also be the *synthesis* of previous thesis-antithesis-conflict statements, in which case it will be a thesis at a higher order of complexity: a development that ‘stands on the shoulders’ of previous coordinations. A synthesis is explained as the higher order resolution of the conflict between thesis and antithesis. When several meaning elements have crystallised as conflicting relationships – which have been brought to the surface – they constitute the platform for a new organisation of knowledge; one that is hierarchically organised as more complex than the previous.

² For an in-depth description of the framework, read Mascolo, 2017.

³ ‘We don’t speak the same language’ is a phrase in Swedish which is sometimes used when there is frustration over miscommunications.

Data and Methods of Analysis

In what follows I will present the group that partook in the study, the scaffolding that was used during the group's meetings, and how the data was gathered and selected.

The Group in the Study

A multi-stakeholder group of seven actors from three organisations, namely the police, the ambulance and the SOS emergency central, participated in facilitated and structured discussions that took place over five meetings. The group had been assembled to investigate issues relating to threat and violence for ambulance personnel in the ambulance service in a metropolitan region of Sweden. My role was to facilitate the meetings as an action researcher as well as a mentor for a larger project by a Swedish insurance organisation focused on decreasing risks for threat and violence in the workplace. The motivation for the group was to find better means of communicating during critical incidents, when police support was deemed necessary to make sure the location was safe for the ambulance personnel to enter, while the ambulance would be waiting at an assembly point. With much at stake, a tremendous proficiency in coordinating actions between the emergency centrals and the ambulance is necessary. The group had gathered as a result of perceived failures in communication, by a tragic incident when a patient had died while the ambulance was waiting for the police to secure the location. The incident had occurred during a private party and the ambulance had interpreted the communication from SOS emergency central that there may be a cause for police assistance. This failure in communication had given rise to the notion that they, as stakeholders with different professions and tasks, did not “*speak the same language*”.

The Process Used During the Meetings

As depicted above, adapted parts of the structured process TIP (Ross, 2006a, 2006b, 2007) was used for the group meetings. While initially developed for deliberative purposes, a group of interested teachers and researchers in Sweden had already explored using purposefully tailored processes of TIP in other settings (Andersson, 2009, 2018; Jordan, Andersson & Ringnér, 2013). The work with the group in this study was part of a larger action research project, where one hoped for outcome, was to test using tailored, shorter, versions of TIP, in multi-stakeholder groups (see Andersson, 2018). As each accomplished task make up the building blocks of new, more complex tasks in the modular design of TIP, it was of specific interest to explore the merits of using specific modules for other kind of groups, outside deliberative contexts. In this study, step 1– 4 was used in a tailored and adapted fashion.

Table 1. The structured process of TIP as shown in the manual (Ross, 2006b)

Step 1: Create a Map of the Territory
Step 2: Align Toward the Goal
Step 3: Develop a Portrait of the Issue
Step 4: Invent an Action System

Step 5: Use the Action-System & Select an Issue-Question

Step 6: Develop the Approaches to the Issue-Question

Step 7: Deliberative Decision-Making & Meta-Approaches

Ongoing Step 8: **Coordinate Systemic Action**

Ongoing Step 9: **Intentional Systemic Action, Evaluation & Learning**

The Use of Special Moments and Common Themes When Analysing the Data

The data consists of transcribed audio recordings of these facilitated group meetings that spanned five two-hour meetings. Additionally, pre- and post- interviews with each participant provided another source for assessing how the stakeholders individually understood and described the issues and solutions, and how they reflected on the process after participation.

The informed consent process was conducted at the time of the first interview with each participant. The meetings were held in Swedish and I translated the data from the meetings to English from the transcribed audio recordings. The analytical phase entailed analysing the equivalent of ten hours of recorded data, in which the discussions moved through several topics and subtopics on the issues of communication and the organisations' information systems.

Basseches and Mascolo (2010) has described 'critical incidents' as moments that seem more central for the developmental path of a client. In the moment-to-moment discussions of the group, some special moments seemed to stick out, as so called 'epiphanies' (Denzin, 1989), which were central for impacting the trajectory of the discussions in the group.

After transcribing the audio-data, I adopted Basseches and Mascolo's coactive lens, which by design functions as a pattern-seeking tool for providing ways to organise the data. When I came across 'special moments' I attempted to track what had led up to them and how links between different contributions were made. Gradually, a discovery of themes and tracks that progressed over the meetings was revealed, which in what follows is presented in the narrating and analysis of the development of the group's 'issue landscape'.

In this paper, several excerpts have been picked up, so that the narratives of the issues are told by the stakeholders themselves, using fictional names for each participant. In this part, I have also chosen to talk about the facilitator in third person, even though I facilitated the meetings. This seemed to be a natural approach to create more distance in the analysis, as a method of defamiliarization (Timmermans & Tavory, 2012). The excerpts are presented as an 'analytical narrative', based on fifty-three quotations from speakers who participated in the group interactions, from the first two meetings, during which they made novel discoveries about their issue question.

“We do Not Speak the Same Language” – A Case of Multi-Stakeholder Communication

In what follows, an overview of the whole scaffolded process is presented, whereafter fifty-three conversational turns, through which the stakeholders communicated their perspectives and dilemmas relating to their overarching issue are accounted for, elaborated on, and subsequently analysed. As a complement to the elaborations in the text below, figure 1 serves as a means whereby to trace and overview the integrative structure of the group’s thinking within particular conversational turns and sets of turns. The analysis demonstrate how the initial thesis – ‘we do not speak the same language’ – was modified over the course of two meetings through different series of transition steps; some in direct response to the initial thesis, and others via several subtasks that eventuated from the thesis. Conclusively, figure 2 graphically elucidate the non-linear, developmental movement of the group’s conversations.

Overview of the Group’s Scaffolded Process

An initial mapping of “Threat and violence at the workplace” with a larger group of stakeholders preceded this group’s meetings. During that initial mapping one focus area of communication during critical incidents had been decided upon. In the first part of the first meeting, the group was updated on this broad map. The topic that was named ‘we do not speak the same language’, was unpacked during the rest of the first meeting. During their second meeting the group had decided to map their communication flow chart between SOS alarm central, the police and ambulance. They also deepened the focus on their communication (the portrait). In the following meetings they brainstormed an action plan and critically examined which of the ideas they would move forward with.

The First Meeting in the Multi-Stakeholder Group

When this stakeholder group met for the first time, they had been tasked to work on stakeholder communication, as described above. As an introduction, the group took some time to focus on their task and the result of the initial mapping which had served to identify several issues and sub issues. The facilitator then prompted the group to decide on a starting point for their issue analysis during which the structured TIP-step called ‘*Turning a topic into an issue*’ was used. This is a sub step of step 2 in the TIP process, and entails the dynamic of iteratively generating more differentiations on causes and impacts of the chosen topic. The facilitator asked the group to make a boundary judgement for this step. Very soon two topics, or theses, crystallised as important problems that the group wanted to discuss:

- [topic 1] ‘**We do not speak the same language**’ (primary focus on differences in stakeholders’ communication and understanding).
- [topic 2] ‘**It is difficult to evaluate if it is safe at the location**’ (primary focus on how evaluation was communicated and understood by the different stakeholders).

The first thesis that the group opted to start investigating was the problem that they considered to be ‘**we do not speak the same language**’, as they saw this as a problem that caused a lot of miscommunication between the stakeholders.

The facilitator start by asking the group to name reasons as to *why* the stakeholders from the different organisations did not ‘speak the same language’.

[1] **Eleonor⁴, strategic manager at SOS:** We have already identified that there is an ambulance needed urgently, and the direction it needs to go. Then *whoooooaa*, we discover that there is a risk for threat and violence, and that is when the police get called into the picture. They know zero, nothing, really.

[2] **Robert, police:** They get a call to police emergency central [LKC], can you send a patrol car?

[3] **Facilitator:** So you have a lot of information and the police have little?

[4] **Eleonor:** They really have none at that moment, and then they get some at that point.

[5] **Robert:** We start out from different points, but then we can even it out, and hopefully get [equal] then... [*points and gestures*]

[6] **Marie, manager at the ambulance service:** I think that it also depends a bit how you acquire information, how your patrols get information. The operator [from SOS] talks to operator at LKC who in turn talks to the patrolling car/s, so there are several people...I mean, everybody makes their own interpretation of the situation.

[7] **Tobias, ambulance nurse:** Stories move...

[*Further contributions*]

[8] **Facilitator:** [*attempts to summarize and coordinate on a flip chart*]: So I understand then that there are differences in how people interpret, both within and between the organisations. The information comes in at different phases. There are a number of different occupational groups involved in different tasks [...]. So the information travels in several directions and at different points, and then people interpret it differently...within the organisations...

[9] **Eleonor:** Well, everybody interprets.

[...]

In the above, the group members spoke about the need for an ambulance, the recognition of risk, as well as the additional need to consult the police and the issue of information; what was known to SOS was not known to the police. In the initial statement [1] *conflicts* concerning what the different stakeholders knew (ambulance, dispatch and police: see figure 1) was brought to awareness, then partially integrated by the facilitator [3] and thereafter further inter-coordinated by Marie [6].

Through these contributions, the communication process started to distinguish who the ‘we’ that did not ‘speak the same language’ were. As the issue landscape shifted from focusing on *language* to *interpretation*, the problem was no longer just between organisations; there were a variety of responses that could be problematic and which could not be generalised to comprise all staff members in any of the occupational groups.

These interactions exemplifies the *unpacking* of a topic, in which information is both processed and expanded upon. This is an important scaffolding function when the goal is to learn more about something that requires several perspectives and is not so well defined to start with. Even so there is a boundary for the discussion, which the facilitator is attempting to hold.

⁴ The names of the stakeholders in the text have been changed to fictional names, and are not the real names of the participants of the study.

Next, the strategic planner for SOS [Bo] built on previously shared contributions to form a response to the initial thesis (topic 1).

[10] If we go to the fundamental question, the *why do we speak different languages* and put it in an occupational context here, it is about these things that we are talking about. What **kind of education** do people have, what **experience have people got**, and, to some degree, what **personality**. This is basically what it is about at an individual level. These three parts, these combinations influence, **why one speaks different languages**.

In [8] the facilitator attempted to coordinate several of the previous themes that related to *interpretation, organisations, how information* was acquired as well as the issue of *points in time* for acquiring information. By relating these different contributions, they were formulated into the concept of a *dynamics of interpretative flow*. In [10] Bo built on the contexts and tasks of the occupational groups to suggest that there were a number of *sources of variations* in the interpretative flow that conjointly answered the initial question of not speaking the same language.

Directly after Bo's contribution in [10], the facilitator probed the initial question once again, in an antithetical manner.

[11] **Facilitator:** Here you are a team ... I feel you speak the same language ... everybody. What is different? What is it that makes you speak different languages ...? Marie, do not forget that your voice is important!

From a scaffolding perspective, we may reflect that the facilitator attempted to probe deeper into topic 1, in order to get more participants' voices on the matter, even while Bo's statement had developed a connection through elaborating on "different sources" (see [8-11] in figure 1).

Oscillations of Stating One's Own Needs and Showing Understanding for Other

In the following discussion, the participating stakeholders answered the question [11] by giving their perspectives on how the focus of their respective role and their agenda influenced their evaluation of risk situations.

The discussions below elucidate a pattern of airing what was in common and shared, and conditions that differed for the stakeholders. During this transition phase the group negotiated perspectives. The following excerpts illustrate this dynamic as a series of oscillations. Oscillations consist of transition movements away from thesis/antithesis, when weighing different aspects of diverse actions in relationship to the values that pertain to a group in a given context (Ross, 2007).

[12] **Solvej:** So if we [SOS] hear from the ambulance staff that they want police assistance for the case...

[13] **Robert:** Yes.

[14] **Solvej:** And then we call LKC [the police emergency central] and then the police operator may say that they [the ambulance staff] can go ahead and drive forward and **see if it [police assistance] is needed**.

[15] **Robert/and other voices:** Aha, mmm....

[16] **Solvej:** But then it may be too late [to ask for police assistance].

[...]

[17a] **Bo:** But could it be like this, **that you get more to do [referring to the police], and are forced to downsize.** So that sense of **safety...the same way that it was a good feeling for the citizens when the police would come in the small matters** [referring to a previous example], [17b] the same way the **ambulance staff would appreciate** that you would come to assistance, even if it is not critical [‘sharp exposure’]. It would still be a **good feeling**, in case **it had been critical**, then we would have had them [the police] by our side.

[18] **Robert:** Yes.

[19] **Bo:** But in the present situation this is not the case.

[20] **Robert:** No.

[21] **Bo:** Then of course there is a **completely different feeling, which comes from the sense of unsafety**, in those situations.

[22] **Robert:** Yes, that is correct. True.

[...]

[23a] **Robert:** [...] And the police patrols go **out to assist and 20 of those times nothing happens.** They notice that there is no issue, and the ambulance can do their job without them.

[23b] But I need to add, that if the police are there, like in the case with special legal proceedings, it can work as prevention, so if they do go, it can influence people to behave better, hold back some impulses, and focus on the person that need to go in the ambulance.

[...]

[24a] **Solvej:** May I ask: Do they [relatives/associates] get more aggressive when the police is present? [24b] Cause sometimes the ambulance staff say, we do not want the police along, cause they get so hard to deal with then. [24c] Or is the opposite the case?

[25] **Tobias:** For some people it can be like that. Surely.

[26] **Bo:** My experience is the opposite. If there are uniformed police that are coming along it can change directly. Within seconds [laughing]. Most often, calming, cooling.

[27a] **Solvej:** But how is it for the ambulance, is this the case when you are coming in too?

[27b] Cause I have heard that from the ambulance staff that they want to enter first, not wanting the police, because it causes too much upheaval.

[28] **Eleonor:** It can be in the cases where they previously have had a bad time with them [‘them’ refer to relatives to the patients, or patients themselves, such as in cases of intakes of drugs].

[29] **Tobias:** Yes, the presence of the police can trigger things. At the same time, it feels better for us, it is a matter of safety to have the police assistance, but not necessarily calmer.

[...]

[30] **Facilitator:** Does that influence this? Is it a cause to this...? [*pointing at written text on the flipchart*] Or a consequence of that? Or how are things connected?

[31] **Robert:** The better one can evaluate what one wants help with, the more it will reduce divergent evaluations, because then one knows why one [the police] goes there...

[...]

[32] **Solvej:** I think these things can be discussed between SOS and ambulance. What is it like at the location, do you want police assistance, given the prevailing conditions, and so on.

The conversational turns above exemplify how the group built their stakeholder and perspective awareness by both affirming and inquiring. In the above excerpts several contributions affirmed as

well as inquired about the different stakeholders' needs. Some contributions defined the awareness of other group members' perspectives, while simultaneously *asking* other group members to consider other perspectives: In [17a] Bo used a previous example by Robert, which illuminated the situation for the police, after which Bo suggested [17b] a similarity between such situations and how it hypothetically could be for the ambulance, if assisted by the police, and then subsequently suggested this is not the case [19]. In [23a] Robert shared the police perspective of when arriving only to find out it was not purposeful, [23b] then suggested a contrast, (by building on a previous example of the importance of working in a preventative manner) and thus accepted Bo's proposition [17b].

In the above, a questioning of shared assumptions also took place, followed by a discussion that differentiated the assumptions. In [24] Solvej showed that she was uncertain if it would always be a positive thing if the police assisted the ambulance, [24a] and suggested if the opposite was rather the case [24a and 24b]. The ambulance nurse Tobias affirmed Solvej's proposition [24a], but differentiated it by adding 'for some' [25], while Bo first stated the answer as an antithetical opposition [26], then moderating it by 'most often'. In conversational turn [28] Eleonor, the SOS strategic manager, contributed with context awareness, in suggesting it depended on specific incidents where issues had occurred previously.

At that point in the discussion there were three different linked themes that had not resolved: the issue of safety for the ambulance, the issue of risk evaluation, and the issue of evaluating if police assistance could affect people negatively at the location. Tobias suggested that regardless whether the police would trigger aggressions, it would be better to have assistance for the safety of the ambulance staff [29].

In the above, the differentiations led to three new conflict representations (see [17-29] in figure 1). The facilitator then used the flow chart [30] to prompt for further connection at an *abstract level* (see figure 2), which was answered by Robert who affirmed the need for adequate risk evaluation [31] and by Solvej who suggested communication between SOS and ambulance [32].

Summarising the First Meeting

Towards the end of the first session the facilitator made a summary that used the TIP-step of 'turning a topic into an issue' as a frame for understanding what had been uncovered during the discussions. The issue landscape that had evolved during the course of the first meeting painted a scene of multiple causes for difficulties in understanding and communicating information, as well as in making risk evaluations. The issue of receiving adequate information, interpreting it skilfully and passing on relevant information to the other stakeholders involved was suggested as a new platform of inquiry. Bo suggested that perhaps as stakeholders, they were well aware of what information they *needed* to receive, but perhaps not communicating their needs so clearly, or being adequately aware of the needs of the other stakeholders. This shifted the dilemma from not understanding each other's language to not understanding each other's needs.

The initial inquiry of reasons for why they spoke 'different languages' was at that point discussed in terms of how *words*, at times, seemed to have different meanings in the different organisations. So towards the ending of the first meeting there were parts of the initial thesis that

was not resolved; it had been differentiated in some ways, yet important aspects remained to be discussed. Consequently, the facilitator asked the participants of SOS and the ambulance service to inquire about the issue of communication at their workplaces, until the next meeting. Each member was also asked to prepare a small presentation for mapping their respective part of a communication flow chart in the next session, in order to understand their specific stakeholder *needs*. Hence, the second meeting had two different tasks on the agenda.

The Second Meeting – An Epiphany and a New Trajectory for Actions

Although the stakeholders knew how the communication was passed on systemically, they now recognised a need to investigate the specific functions and requirements of each part of their integral chain of information, in order to discern how to improve communication along each step in the communication flow. For this purpose, the manager of LKC [Nils] joined the group in the second meeting, to contribute with specific information on how risk evaluation was determined at LKC. In order to provide scaffolding, the facilitator assisted with drawing the map of communication on the whiteboard, while also listing dilemmas or questions that emerged in the process. This was not strictly a part of the TIP process but emerged as an added step to provide the group with clarity of the structures of their communications between their organisations, while also pinpointing the different needs and dilemmas the group members saw within those structures.

Mapping the Communication Flow Chart

During this step, two parts of the discussion stand out as ‘special moments’ and one of them was described by a participant as a new insight – an epiphany.

The excerpt below is about twenty minutes into the meeting, and the SOS nurse Solvej had already mapped a SOS flow chart on the whiteboard. When it was Nils’ turn to describe how levels of priority were determined at LKC, the inquiry into how LKC would assess the need for an assembly point emerged. Nils requested that they use actual scenario examples, given that their actions would depend on the situation.

[33] Nils: Well, it is of great significance how the information comes in. If someone says that someone is on the ground, shot, then maybe that does not change [our approach], but when someone says that there is a person with a weapon in the hand then that changes things a lot.

[34] Facilitator: But Nils, what you say now is very important from the viewpoint of communication. So it is the information from MX (the receiving operator at SOS alarm) that is crucial to the assessment?

[35] Nils: Yes, that is what determines the level of priority.

[...] *[Facilitator adds the information to the flow chart on the whiteboard and asks for confirmation].*

[36] Solvej: But that is the thing... the only thing they [MX] know is that someone has been shot, it can be with an airgun or sharp weapon, it can be anything. And when people call in, it is always the worst scenario. That is why the MX knows very little. The nurse that takes over the call may perhaps get a bit more information from the caller... [...]

After Nils finished his part, the facilitator asked if there were any questions. Bo then pointed out that in cases where the incidents were *public*, both MX and LKC would get calls from people. In such cases there were two parallel tracks in which LKC would get the calls related to safety and MX would get calls related to needs for patient care. Bo then made the point that incidents that happened inside a *private* house were completely different and that it might be the case that only MX would get calls, despite the need for police. This contribution pointed to where there was a lack of adequate information to give to the police for determining the priority of the case.

[37a] Bo: To both identify and evaluate if it is critical in terms of staff safety, which means that the more critical it is in terms of care...if someone is bleeding from the neck, the less time to ask for safety, right, because we want to save lives. Right? **[37b]** And that is definitely a dilemma for when we really would need to ask questions about safety, for example, is the perpetrator still there, how many are involved [...] **[37c]** So, we talk about speaking different language but in that situation there is not much information to talk about.

[38] Solvej: No.

[39] Bo: Really, there are not many words to mention. In that situation. That is incredible. I have never seen it in this way.

[...] [*These contributions of Bo probed an immediate suggestion for a solution, by Tim, which was interrupted by the facilitator, who instead asked Tim to wait for Bo to finish.*]

[40] Bo: So, a dilemma is that the more critical in terms of care, the less time for questions regarding safety.

The *attractor value* of Bo's proposition was so strong that it evoked spontaneous solutions, rejections of some of the contributions, questions and the bringing up of adjacent problems. At some point the facilitator asked for a break, realising that it had become too hard to catch all the new contributions on the whiteboard.

With Bo's new way of understanding the dilemma of evaluating risk, he created an important distinction to the original thesis 'we do not speak the same language' because 'there are no words here to speak of, as we lack information'. Also, a *causal* link to the second thesis [topic 2] that the group wanted to explore, 'it is hard to evaluate the safety at the location', was made.

Bo also went back to the *original issue* that constituted the group's gathering. He pointed to dilemmas that could occur in private settings, such as the tragic incident that happened in a private house and where there was little information. The information that was there – such as background sounds and the location of the event – was interpreted as potentially unsafe for the staff. Yet, it was not until now, when Bo's 'antithetical epiphany' took place, that this dilemma became an attractor⁵.

“It is Not About the Words We Say”

After a short break, the facilitator endeavoured to refocus the groups' attention to how 'words had different meaning', by concentrating on and listing the influence of attitudes and behaviours. The facilitator's decision to use a structured step, i. e. 'the problem portrait', was made in order to

⁵ At the time that I was acting as the facilitator, this part of the meeting stood out as the most important issue for impacting the trajectory of the group's understanding of the problem situation and the consequential action plan.

elicit a new level of attention to the dilemma the group initially had decided as their focus, even while noticing that the group had begun to be curious about finding solutions to the dilemma that had emerged before the break.

[41] Tim (ambulance nurse): I can give an example of a patient case. [*Tim tells a case-story about when police officers had to wrestle down a perpetrator while the ambulance officials were tending to the patient in the same room. Afterwards it was discussed that the situation had affected the officials in very different ways*].

[42] Solvej: We talked about that last time. We only see the care aspect [what we can do to offer care].

[43] Tim: This is how it can differ: what is routine for the police can be dramatic for the ambulance staff.

[44] Facilitator: Nils, can we hear your view on this? Can there be a mismatch?

[45a] Nils: There is maybe something to that. We have our focus on seizing the perpetrator. I may hear from time to time that we come along too often: ‘Gee, that was nothing’. **[45b]** That the threshold is different for what can be conceived of as a threat. That is what comes to mind on the subject of speaking different languages. **[45c]** Because I don’t think that it is exactly what we say that it is about. It is not the words we say; do you remember the incident of....?[*Nils offers an example from a case*]

Nils exemplified a situation where there were multiple factors that prevented a police official from taking in and accurately evaluating the information that was given by the MX: the time pressure, the fact that it was a highly uncommon and dramatic incident, the intensity of the situation and the way the official was affected when receiving the information. Nils concluded that one can get locked into a way of understanding a situation and not accurately *hear* what words are being said.

Here, Nils offered his contribution to the previous session’s discussion on interpretation. First he offered an opposition to the original thesis (topic 1): ‘I do not think it is about speaking different languages.’ He then stated that: ‘Our thresholds for conceiving threats differ,’ which differentiated previous connections made in the group between *evaluation*, *safety* and *care* (see [30-33] in figure 1).

“Is the Location Secured?”

The facilitator probed the theme for the session further by asking about ‘words meaning different things’. What did it entail? What had been a central issue throughout the two meetings was communication regarding a location had been secured by the police. This was one important reason for the ambulance staff member’s experience of not speaking the same language, which related to staff safety. At a later point in the meeting, this was brought up and defined as follows:

[46] Tim: Then it is about the issue ‘Is the location secured’? A number of occasions we have gotten that it is, but when we get there, the police have just arrived.

[47] Facilitator: So the information you get is that it is secured, but the information you should have gotten is that they just arrived at the location? Why is there a mismatch?

[48] Tim: Perhaps it is how one expresses it.

[49] **Nils:** Well, as an operator it is likely how one sees it.

[50] **Eleonor:** When we call in, then we probably say that the police is at the location, even if they just arrived two seconds earlier. If the police is there it is likely the way one sees it.

[51] **Tim:** Here we need an even level. That they have caught the perpetrator, not that they have just arrived.... [...]

Tim's suggestion was important, for when the need to find an even level on specific terms had been stated, it became an attractor for creating action plans that both concerned understanding if and when important specific terms were used differently, and for finding ways to bridge the respective understanding of the stakeholders. Nils also offered a distinction to the original thesis in the context of routines and training:

[52] **Nils:** Formally we have different languages. Different things have different *names*.

Towards the end of the second session, the facilitator engaged the participants in a round of reflections about the meeting. Marie stated:

[53] We do speak the same language, but we are inside our own corral.

By differentiating what 'secure' meant for the ambulance and the police, connections and an inter-coordination were made that enabled the group to understand that overall, they did in fact speak the same language but used terms differently (see [45-53] in figure 1). In doing so, the integrative complexity moved to an abstract systems level (see figure 2).

In the subsequent meetings, the group began to create action plans based on where they arrived after meetings one and two. They found themselves coming up with terms for communication and creating a safety index for MX to ask if there appeared to be a risk for violence against ambulance personnel. Some tasks relating to their issues had been solved while some remained.

In this narrative I have focused on the issues that the group brought to a closure, and which involved their consecutive plans for actions. There were several other topics that the group discussed during these first two meetings. Some of the topics were dropped and others were incorporated into the collective understanding that assisted their action plan.

Micro-Developmental Movements

In the figure (1) below, the developmental processes are represented graphically from conversational turn 1–53, showing the *differentiations* and *integrations* that were made while and by generating concrete ideas and examples, as well as counter examples. The concrete ideas provided the soil for elaborating and differentiating new ideas which over time became integrated into higher order representations from the lower-level meanings. Figure 1 is not exhaustive and does not map all the central insight that came out of the sessions, but as an organising map it enables a view of the micro-developmental movements that took place and how the group members and facilitator co-scaffolded these movements.

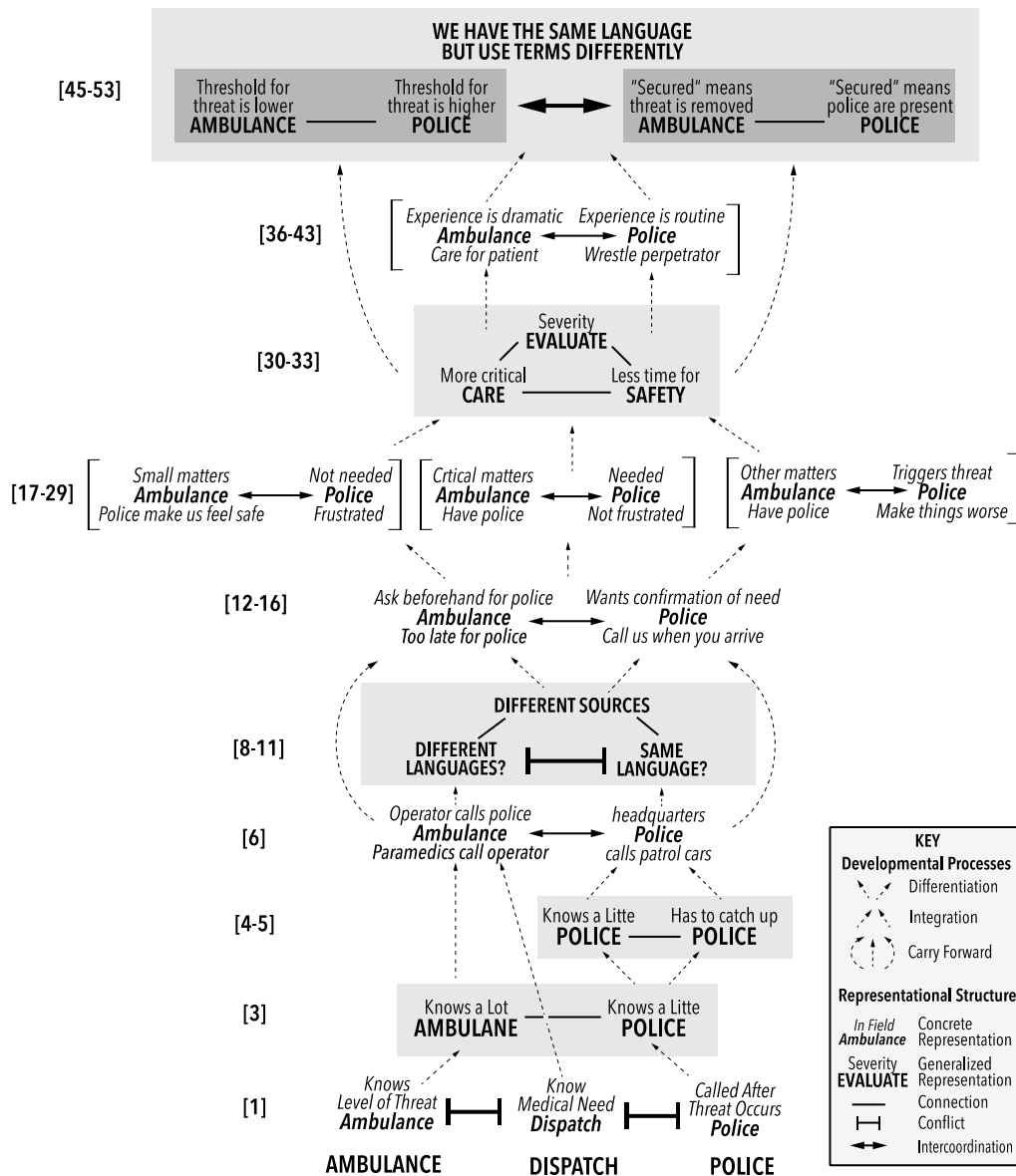


Figure 1. Illustrating microdevelopmental movements with TACS

The graph below (figure 2) show the non-linearity of the development as a moving back and forth between concrete and abstract levels, into an eventual rise in integrative complexity. The higher order representations resolved lower-order conflicts and contradictions.

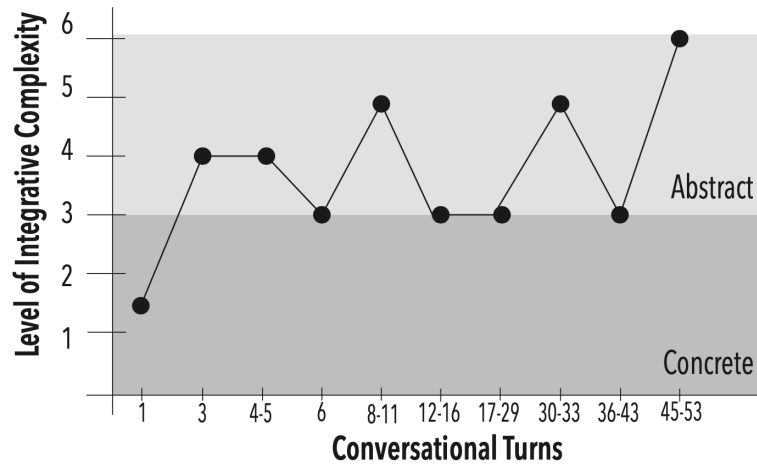


Figure 2. The non-linear and gradual changes in integrative complexity during the 53 conversational turns.

The figure demonstrates the changes in the level of integrative complexity of 10 steps, consisting of six levels.

1. Single concrete ideas
2. Concrete mappings (connections between ideas)
3. Concrete systems (connections among multiple ideas)
4. Single abstract ideas
5. 5 Abstract mapping (connections between abstractions)
6. Abstract systems (connection among multiple abstractions)

Coactive Scaffolding – Discussion

In this paper I have used a microdevelopmental lens to elucidate knowledge integration through moment-to-moment interactions in a series of scaffolded group meetings. The theoretical analysis suggests how the group members built and transformed their understanding in a non-linear fashion, resulting in a higher level of integrative complexity. For practioners, the conversational turns exemplified how group members built knowledge by sharing differences in perspectives and needs as well as sometimes questioning assumptions. In this case, this suggest that a constructive *coactive scaffolding* took place as the group developed their complexity awareness over the course of their meetings.

In the following, some tentative conclusions are discussed on the dynamics of scaffolding, as well as limitations of the case study.

Co-Scaffold – Assessing the Productiveness of the Interactions

A mark of a productive dialogue is when the group members' contributions lead to new, shared knowledge – which hinges on the total sum of the group's ability to coordinate their contributions. When different contributions are taken into account and used by group members to differentiate

and integrate new meanings, then group discussions have the potential to constructively develop beyond polarised views; potentially integrating opposite views and resolving conflicts. For facilitators, this shows the importance of letting group members cover topics in iterations by zooming in and out of the same topic and allowing sufficient time to make necessary connections. In a visual and poetic sense, we may view it as a continuously evolving issue landscape in which each contribution is both a cognitive product and the base for actions that involve new contributions. Once a contribution has been made, it constitutes a new part of the changing scenery. A contribution can later be brought forward to differentiate prior contributions, to expand the conceptual understanding, or in order to invent a novel meaning. Finidori states that:

The ‘difference’, or net ‘added value’ generated as output of a process, becomes an input itself, the seed for something new or for the regeneration of the system, working in an autopoietic manner. In this context, patterns are open-ended, and ‘never finished’ because the system is constantly in a ‘becoming’ state, seeking to generate processes able to ‘fix’ themselves on an ongoing basis. (Finidori, 2016, p. 16)

In this analysis we can see that some of the seemingly ‘loose threads’ later got picked up and used to elicit new understanding (by, for example, differentiating or integrating previous threads). In that sense, all topics raised were ‘up for grabs’, and possible resources throughout the meetings. Each contribution was a moving target; that is, a piece of information located in one part of the interaction became an ‘offspring’ in another. The participants scurried around, backtracked and picked up pieces from other contributions that occurred previously.

From the view of fractal development (Ross, 2014), integration can go in different directions; that is, the process of coordinating knowledge is fractal, as well as recursive. It is therefore important to make these kinds of analyses thematically and without a time stamp, as suggested by Ross (2014) and Basseches and Mascolo (2010), in order to really track the generation of the new output. It is very easy to miss details and overlook elements, given that communication, where several aspects need to be covered, in some sense appears chaotic and disorderly. When we follow an interaction over a longer period, we may see the evolving issue landscape, and the meaning making it entail, more clearly. A suggestion for practitioners is to keep investigating these mechanisms and choose scaffolding that allows for both structure and freedom (see Andersson & Palmer, 2023).

In this case, the two theses statements at the start [topic 1 and topic 2] were iterated non-linearly throughout the interactions (as seen in figure 1), in a way that increased the complexity awareness of their interrelation, as well as their separate features, which prompted different actions that had not been clear at the onset.

Roles and Functions in Scaffolding

In the course of the group discussions, more collective understanding developed, and at the same time, more individual learning about the organisations took place (see Andersson, 2015). This is an example of how the process of meaning-making is both individual and collective.

The artefacts used were mainly a whiteboard and flipcharts, which I as a facilitator used (sometimes assisted by Marie). In the excerpts we can see hints of how these artefacts became a significant part of linking, relating to, and drawing, the issue landscape.

In the contributions of the facilitator, the main scaffolding function was to ask the group to make connections – to link their contributions. Sometimes the facilitator also inquired into a contribution's relevance to the theme, and by doing so asked the group to maintain focus on their issue. By asking the group to clarify questions, the group members elaborated further, which in turn made them more defamiliarized with their own information system; a system they had previously thought they understood. Elaborations also made new aspects of the flow chart emerge; in particular aspects that were not part of the common, everyday routine, or that was simply too vague for the others. These, however, were needed to understand the complexity of their communication and where the information system did not work as well as required.

Conflict may occur between stakeholders or within one and the same stakeholder during a process and is a necessary part of integration of contrasting perspectives (Mascolo, 2017). As suggested earlier, contradictions can exist, and do, when they are not held concurrently illuminated (ibid). The facilitator can therefore play an important role by tracking the dialectics of the process and by bringing conflicting statements to awareness in the moment-to-moment interaction. In the excerpts there are examples of the facilitator suggesting distinctions and asking for more voices in order to develop collective understanding. In this process, the facilitator probed in order to see if more information or other angles existed, including asking participants who had been quiet for a while to contribute, and by asking a participant not to interrupt so that an ongoing contribution could be completed. An important function of the facilitator was to get the group to stick to the issue until it appeared 'saturated'. Group participants do not always adhere to the way the facilitator is structuring the communication, and they may have very good reasons for this, such as the need to include other topics or make divergent explorations. Staying with the process may, paradoxically, at times therefore include stepping away from it, in order to find where the boundaries of relevance to the discussion are located, and how those makes sense to the group. A facilitator may not always find ways to guide such a process effectively in the moment, but could be meaningfully assisted by an understanding of non-linear dynamics. Such understanding may enable the facilitator to allow for flexibility and openness while at the same time offer a scaffolding that enables the coordinations of different group contributions. In this case, the scaffolding function of the structured method was an important part for the direction of focus and for creating the possibility to link different contributions. This may be particularly important for a research facilitator without much experience of facilitating, while a facilitator with more experience may find more adapted, emergent and group focussed ways of scaffolding.

Attractors

The notion of attractors constitutes another important concept and phenomenon for facilitators, in helping to identify what draws a group in and where their curiosity and motivation emerge during a process. In this case, the group followed their question marks (a question mark being shaped like a hook is a timely symbol) and answered their *own* questions, as seen in [31, 32 and 51]. The participants' own questions acted as attractors and their contributions were organised around them. This is an important part of the analysis of Bo's epiphany, and the subsequent shift of the attractor,

which can be explained by Ross' theory on fractal transition steps:

These unpredictable behaviors are 'rational' when understood in terms of attractors operating within developmental processes. Each thesis constructed by an entity is an attractor, and the coordination processes return to it at different points in time until it is resolved, or cannot be resolved and is abandoned, or is interrupted and subsequently forgotten or conditions change. This accounts for why there are often discontinuous actions on a thesis that are nonetheless developmentally coherent. (Ross, 2014, p. 31)

Ross' statement points to the fact that transitions are fractal and non-linear, and as we see in this case study, the group started with a thesis [topic 1] that was concluded in response to a significant and tragic incident. Yet the whole dilemma that the incident itself constituted was perhaps the strongest attractor, of which the resolution to *we do not speak the same language* was one subtask that needed to be resolved. The complexity of the issue that the group worked on was systemic and emergent, in that a solution for the issue of the lack of staff safety had resulted in potential danger for patients (caused by time delays). Thus a solution that encompassed both issues was needed. The distinctions to the initial thesis – such as *words* or *terms* – and to answer what it meant more precisely when someone had stated that the location was secured, etc., were important parts of the resolution. Marie's final conclusion that they 'speaking the same language but from their own corral' also resonated with responses in the post-interviews with the participants. On the one hand they had solved the dilemma by focussing on acquiring more information on critical incidents in private locations and by calibrating the important terms to mean the same things, but on the other hand, organisational communication issues are generally larger, as they exist at the boundaries of stakeholders' knowledge (Carlile, 2004) and may therefore be regarded as perennial. The group expressed this too, and responded with more action plans to increase their stakeholder awareness in an ongoing fashion.

The notion that a group should follow their own attractors has further implications for facilitation. After Nils had offered his suggestions that sometimes in loaded situations one does not hear, I, as the facilitator, asked if or how they worked with communication feedback. I thought this was relevant and important and at another point maybe this could have been discussed further. The question did elicit a fairly long discussion, but it was going in several directions without resolution. As I analysed it later, the group was not attracted by this facilitative contribution. It was not where the group was going. I will again cite Ross, to point to the unpredictability of the group's inner life, and the importance of scaffolding the emergence of their attractors:

In all natural behaviors, each person or group generates a unique set of variables to coordinate in the process of eventually arriving at its own synthesis: no one can predict which variables will emerge, or be rejected, or be incorporated in a synthesis until it happens! (Ross, 2014, p. 30)

Concluding Reflections – Limitations and Looking Ahead

In this paper I offered a microdevelopmental perspective in order to analyse the dynamics of scaffolding and how the understanding of the group journeyed over a series of meetings. The unfolding narrative elucidated how the process of *coactive scaffolding* of an increased, and more

complex, understanding of the stakeholders' issues of concern occurred through the moment-to-moment interaction. The strength of the method used was that it allowed for a perspective on how moment-to-moment contributions over time could contribute to increased knowledge about issues of collective concern. The weakness of the method was that it was cumbersome and important aspects were still left out.

The study was an exploratory sample with the small scope of a single case. There is a potential bias from analysing my own material as I was the facilitator of the group. The bias may not so much subsist in the analysis of the material that I have brought into view, but in what I failed to bring out, perhaps inevitably so, in the manner that Denzin proposes, that science is always just one way of telling a story (Denzin, 1989). I had to make several boundary judgements for selecting information from a vast array of material (each meeting consisted of 15 to 18 pages of transcriptions). To represent the material with coherence and relevance was therefore a challenge and there was a limit to how much empirical material I could include. I may have made some undue generalisations and not accounted for – with high enough resolution – some important aspects of the participants' issue landscape. Working together with others in the analytical processes would have been a preferable route and is a future recommendation.

Coaction of knowledge in stakeholder groups needs to be understood further. I propose the use of a microdevelopmental lens for other case studies, including groups with different kinds of tasks and stakeholder settings.

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References

- Ackermann, F., & Eden, C. (2010). Strategic options development and analysis. In M. Reynolds & S. Holwell (Eds.), *Systems approaches to managing change: a practical guide* (pp. 135–190). London: Springer.
- Andersson, P. (2009). *Perspektivvandringar: att arbeta med trygghetsfrågor i lokalsamhället*. Göteborg: Tryggare och Mänskligare Göteborg.
- Andersson, P. (2015). Scaffolding of task complexity awareness and its impact on actions and learning. *Action Learning and Action Research Journal*, 21(1), 124–147.
- Andersson, P. (2018). *Making room for complexity in group collaborations: The roles of scaffolding and facilitation*. Doctoral thesis, Department of Sociology and Work science, Gothenburg Studies in Work Science 2018:17, Gothenburg: University of Gothenburg. <http://hdl.handle.net/2077/57854>
- Andersson, P., & Palmer, H. (2023). The promise of scaffolding: a metaphor and living practice in transdisciplinary inquiry. In: Lawrence, R. J. ed., *Handbook of Transdisciplinarity: Global Perspectives*. E. Elgar Publishing Ltd, Cheltenham, UK.

- Basseches, M., & Mascolo, M. F. (2010). *Psychotherapy as a developmental process*. New York, NY: Routledge.
- Bruner, J. S. (1973). Organization of Early Skilled Action. *Child Development*, 44(1), 1–11.
- Carlile, P. R. (2004). Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries. *Organization Science*, 15(5), 555–568.
- Commons, M. L., Miller, P. M., Goodheart, E. A., & Danaher-Gilpin, D. (2005). Hierarchical complexity scoring system (HCSS): How to score anything. Retrieved from <http://dareassociation.org/Papers/Scoring%20Manual.htm>
- Commons, M. L., & Richards, F. A. (1984). A general model of stage theory. In M. L. Commons, F. A. Richards, & C. Armon (Eds.), *Beyond formal operations* (Vols. 1–1, pp. 120–140). New York: Praeger.
- Commons, M. L., & Ross, S. N. (2008). Editors' introduction to the special issue on postformal thought and hierarchical complexity. *World Futures: The Journal of General Evolution*, 64(5–7), 297–320.
- Denzin, N. K. (1989). *Interpretive biography*. Newbury Park: Sage.
- Eden, C. (1992a). A framework for thinking about Group Decision Support Systems (GDSS). *Group Decision and Negotiation*, 1(3), 199–218.
- Eden, C. (1992b). On the nature of cognitive maps. *Journal of Management Studies*, 29(3), 261–265.
- Finidori, H. (2016). Patterns that connect: Exploring the potential of patterns and pattern languages in systemic interventions towards realizing sustainable futures (p. 29). Presented at the 60th Annual Meeting of the International Society for the Systems Sciences, Colorado University, Boulder: *ISSS Journal*.
- Fiol, C. M. (1994). Consensus, Diversity, and Learning in Organizations. *Organization Science*, 5(3), 403–420.
- Fischer, K. W. (1980). A Theory of Cognitive Development: The Control and Construction of Hierarchies of Skills, 87(6), 477–531.
- Franco, L. A. (2013). Rethinking Soft OR interventions: Models as boundary objects. *European Journal of Operational Research*, 231(3), 720–733.
- Franco, L.A., & Nielsen, M.F. (2018). Examining Group Facilitation In Situ: The Use of Formulations in Facilitation Practice. *Group Decision and Negotiation* 27, 735–756.
- Granott, N. (1993). *Microdevelopment of Co-construction of Knowledge During Problem Solving: Puzzled Minds, Weird Creatures, and Wuggles*. Dissertation Abstracts International, 54 (10B), 5409.
- Granott, N. (1998a). A paradigm shift in the study of development. *Human Development*, 41(5–6), 360–365.
- Granott, N. (1998b). Unit of Analysis in Transit: From the Individual's Knowledge to the Ensemble Process. *Mind, Culture, and Activity*, 5(1), 42–66.
- Granott, N. (2005). Scaffolding dynamically toward change: Previous and new perspectives. *New Ideas in Psychology*, 23(3), 140–151.
- Granott, N., & Parziale, J. (2002). Microdevelopment: A process-oriented perspective for studying development and learning. In N. Granott & J. Parziale (Eds.), *Microdevelopment: Transition Processes in Development and Learning* (pp. 1–28). Cambridge: Cambridge University Press.
- Holman, P., Devane, T., & Cady, S. (2007). *The change handbook: the definitive resource on today's best methods for engaging whole systems*. San Francisco: Berrett-Koehler.

- Inglis, J. (2007). Matching public interaction skills with desired outcomes. *International Journal of Public Participation*, 1(2), 2–17.
- Inglis, J. (2008). Evolving to Address Global Climate Change and the Scale of Public Interactions. *World Futures*, 64(5–7), 498–502.
- Jahnke, A. (2014). *Insegel till Dialog: Skolans Matematikutbildning: En Studie I Fyra Praktiker*. Print. PhD I Studier Av Profesjonspraksis, Nr. 11.
- Jordan, T. (2016). Deliberative Methods for Complex Issues: A typology of functions that may need scaffolding. *Group Facilitation: A Research and Applications Journal*, (13), 34–70.
- Jordan, T., Andersson, P., & Ringnér, H. (2013). The Spectrum of Responses to Complex Societal Issues: Reflections on Seven Years of Empirical Inquiry. *Integral Review: A Transdisciplinary & Transcultural Journal for New Thought, Research, & Praxis*, 9(1), 34–70.
- Mascolo, M. F. (2005). Change processes in development: The concept of coactive scaffolding. *New Ideas in Psychology*, 23(3), 185–196.
- Mascolo, M. F. (2017). The transformation of a White supremacist: A dialectical-developmental analysis. *Qualitative Psychology*, 4(3), 223–242.
- Mascolo, M. F., & Fischer, K. W. (2015). Dynamic development of thinking, feeling, and acting. *Handbook of Child Psychology and Developmental Science*.
- Mengis, J., & Eppler, M. J. (2008). Understanding and Managing Conversations from a Knowledge Perspective: An Analysis of the Roles and Rules of Face-to-face Conversations in Organizations. *Organization Studies*, 29(10), 1287–1313.
- Midgley, G. (2000). *Systemic intervention: philosophy, methodology, and practice*. Kluwer Academic/Plenum Press: New York.
- Polanyi, M. (1958). *Personal knowledge: towards a post-critical philosophy*. Chicago: University of Chicago Press.
- Repko, A. F. (2008). *Interdisciplinary research: Process and theory*. Thousand Oaks, CA: Sage.
- Ross, S. N. (2006a). Perspectives On Troubled Interactions: What Happened When A Small Group Began To Address Its Community's Adversarial Political Culture. *Integral Review*, (2), 139–209.
- Ross, S. N. (2006b). *The integral process for working on complex issues* (4th ed.). Bethel, Ohio: Arina.
- Ross, S. N. (2007). *Effects of a structured public issues discourse method on the complexity of citizens reasoning and local political development*. Doctoral dissertation, Union Institute & University.
- Ross, S. N. (2008). Fractal Transition Steps to Fractal Stages: The Dynamics of Evolution, II. *World Futures*, 64(5–7), 361–374.
- Ross, S. N. (2014). Fractal model of nonlinear hierarchical complexity: Measuring transition dynamics as fractals of themselves. *Behavioral Development Bulletin*, 19(3), 28–32.
- Shaw, D., Ackermann, F., & Eden, C. (2003). Approaches to sharing knowledge in group problem structuring. *Journal of the Operational Research Society*, 54(9), 936–948.
- Tavella, E., & Franco, L. A. (2015). Dynamics of Group Knowledge Production in Facilitated Modelling Workshops: An Exploratory Study. *Group Decision and Negotiation*, 24(3), 451–475.
- Timmermans, S., & Tavory, I. (2012). *Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis*. *Sociological Theory*; Washington, 30(3), 167–186.
- Turunen, P. (2013). Deltagardemokratiska och systemiska metoder för komplexa samhällsfrågor och samhällsentreprenörskap. Ett komparativt perspektiv. *Working Papers 2013:01*, Department of Sociology and Work Science, Gothenburg University.

- Westin, M., Hallgren, L., & Montgomerie, E. (2023): Between authority and argumentation: facilitators' use of power in collaborative governance. *Journal of Environmental Planning and Management*. DOI: 10.1080/09640568.2023.2174835
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89–100.