Creativity Draining: Abuse of Scripts in Maritime Collaboration Exercises

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Abstract. This paper focuses on the relationships between exercise scripts and the need to improvise in emergency preparedness exercises. Two relatively large emergency preparedness collaboration exercises are examined (Øvelse Nord 2016 & SCOPE 2017). Our primary observation from these exercises is that they exemplify a common trait: the participants and collaboration partners are governed more by strict manuscripts, where little or nothing is unforeseen. Hence these events are not training innovative practices or improvisation. Path dependency in emergency collaboration exercise can, as shown in the cases, provide both clarity and understanding of the tasks at hand. On the other hand, script dependency in exercises creates an artificial atmosphere where the dynamics of real-time chaos and urgency are left out of the training grounds.

Keywords. Collaboration, learning, usefulness, exercise, scripts, improvisation, creativity

1. Introduction

In a resilient society, local knowledge, local creativity, and local networks have proven to be vital in coping with large, unexpected events, according to the Norwegian Directorate of Civil Protection (Direktoratet for samfunnssikkerhet og beredskap, DSB) [1]. Furthermore, emergency agencies in Norway should perform training or exercises [øvelse]. Most often the terms “exercise” and “training” are used as synonyms, but the DSB handbook separates the two. It is training when individual skills and knowledge are tested and developed. Collaboration exercises, however, are about organizational knowledge and skills.

As defined by the DSB, it is training when the actors are working with their sector-specific tasks and objectives, solving a problem for the society, deploying written rules and internal guidelines. Collaboration exercises, according to DSB, are more related to inter-organizational crisis work. The problems debated in this paper relate to how exercise scripts (detailed planning) and intra-organizational learning objectives can influence collaboration and improvisation.
1.1. Collaboration

In the field of Norwegian emergency preparedness, collaboration exercises are promoted as a useful tool to enhance inter-organizational learning, or collaboration. The concept embraces improvement and the recommendation that such learning activities need to focus on common goals, realism, and improvisation [2].

Collaboration within and between different public bodies was developed as a popular work methodology among various public actors in the late 1980s as a counterweight to an era characterized by competitiveness. Collaboration has proven to be more useful and more effective than an initiative to solve the problem made by individuals [3,4]. However, the concept of collaboration can be problematized to only be a part of the exercise discourse and not exercise praxis. In general, the collaboration concept has been applied across a wide range of disciplines and empirical fields and is relevant across multiple sectors when it comes to knowledge sharing, management perspectives, and utilization of resources [5]. Cross-sector collaboration is viewed as a solution to both regulatory fragmentation and task distribution challenges [6].

It is also relevant to areas such as team development and organizational integration. Collaboration can be categorized as sequential, parallel, or synchronous. Sequential collaboration is a relay race way of distributing the work. Parallel collaboration refers to situations where all parties are active simultaneously, but where the activities carried out are strictly based on the different agendas, professions, and sectorial legislation of the parties. Synchronous collaboration is a limitless type of collaboration practiced in situations of resource deficiency and limitless interaction between participating organizations. During such circumstances, staff from health care, police departments, or fire departments need to operate in realms outside of their professional scope [7].

Theoretically speaking, collaboration means that relevant stakeholders, regardless of their sector affiliation, unite their resources and engage in volunteer partnerships to resolve complex and often large-scale situations [8]. Research indicates that stakeholders engage in a collaborative process based on the assumption that the benefits or levels of

Table 1. Forms of collaboration.

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<th>Forms of collaboration</th>
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<tr>
<td>Sequential collaboration</td>
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<td>Parallel collaboration</td>
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<td>Synchronous collaboration</td>
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Three generic configurations of collaboration where sequential and parallel are the ones that can be easily trained. Synchronous can occur when one actor fails to solve the tasks at hand, and the need for collaboration emerges, both on the ground and at a strategic level.
utility are higher than the costs [9]. The concept of collaboration in organizational thinking is often related to improvement and integration. However, even if collaboration is perceived as useful, it needs to be stressed that in a civil protection perspective, most incidents are solved within the boundaries of their own organizations, as they rightly should be. It is in situations where one actor fails to solve the tasks at hand that the need for collaboration emerges, both on the ground and at a strategic level. Organizational border crossings can be seen as exploration, challenging comfort zones and known pathways at organizational and personal levels. This form of collaboration questions the chain of command within and between professions, posing questions like these: Who decides? How can we move forward? And why do we do what we do? This can be difficult if uncertainty, unclear roles, and directives are seen as something unwanted and undesired.

Ideally, horizontal collaboration is a process where different actors work together, free of prestige, to solve a common problem [2,3,10]. Collaboration does not occur as a consequence of the event per se; collaboration requires voluntarism and integrated efforts among professionals. This includes several types of collaboration levels—sequential, parallel, and synchronous—depending on the scenario and available resources. Each participant needs to see the utility of collaboration and be willing to work across organizational boundaries to achieve a common objective.

The above-mentioned use of the collaboration concept among emergency and planning scholars stands in a close connection with collaboration governance approaches embraced in the public administration literature. Around the millennium shift, collaboration theory building was inspired by network theory [11,12], preceding the concept of cross-sector collaboration [13,14]. Network and cross-sector approaches to collaboration resonate with the dismantling of the governmental steering hegemony and the entry of businesses, NGOs, and other civil society actors as acknowledged parts of the governing system [15].

Research on obstacles to effective collaboration points to managerial challenges, asymmetry, uncertainty, and a lack of trust [16], connected to individualistic and utilitarian behaviour that needs to be tamed. To achieve a higher degree of collaboration during actual emergencies, exercises require an increased focus on learning and evaluation. However, the relationship between collaboration exercise learning effects and actors’ experience shows that little is learned after the initial exercise, and this fosters the need for repetition to enhance desired outcomes [17]. Learning effects are related to the desirability of being given new tasks or roles [18]. The participating parties need to establish common grounds where different organizations and practitioners may meet to learn from each other. Knowing each other’s organizations, strengths, and challenges may contribute to improved relations, more effective communication, and enhanced cooperation abilities [19]. Alharbi et al. [20] argued that collaboration and trust between agencies is effected by different degrees of friction, reliability, availability, and serviceability. Hence, reduced friction can form the pathways towards trust among different emergency agencies. Critical here is how friction and how collaboration and potential learning are created. Two other perspectives we will return to in the discussion section is how this relates to the concept of the unforeseen defined by Torgersen: “A relatively unknown event or situation that occurs relatively unexpectedly and with relatively low probability or predictability to the individual, group or community that experience and handle the event” [21].

We expect high-reliability organizations to have developed ways of managing the unexpected better than most other organizations [22]. Secondly, it also relates to how
you accentuate your own, your team, or the organization’s creative energy—figuring out the implications of a problem, and producing as many different and unlikely ideas as possible [23]. One explanation for a possible lack of improvisation and creativity lie in the realms of path dependency and the use of detailed scripts in collaboration exercises.

1.2. Path Dependency

According to Sydow, Schreyögg, and Koch [24], historic events prime the organizational decision making and underpin the need to understand better how organizations can lose their flexibility and become inert or even locked in. Related to collaboration, such lock-ins can be cognitive, emotional, social, or budget related:

- **Cognitive.** Self-reinforced blind spots, e.g., “It cannot be done differently”. We don’t see what we don’t see.
- **Emotional.** Commitment is related to our identity; the more we are committed, the stronger the identity.
- **Social.** Common basic assumptions, e.g., “What we are doing is right” (IUA referring to Full City).
- **Resource.** Dependence on budget allocations and securing that learning objectives (often predefined) are met.

(p. 26)

Liebowits [25], on the other hand, pointed to how [economic] path dependence does occur, and how these so-called discrete layers of path dependency can hamper optimal performance. In this paper we discuss how the use of tight schedules and scripts in exercises can reduce the optimal outcomes at an organizational level. Liebowits [25] identified “three distinct forms of path dependence. Two of these forms … are commonplace”. But the third and strongest form of path dependence, is significantly challenges our classical thinking and traditions.

First degree:

Initial actions that cannot be changed without some cost (comb your hair to the left, or the decision on which power supply to use while building a factory, or the classic QWERTY keyboard configuration).

Second degree:

The inferiority of the chosen path is unknown when the choice is made, with outcomes that are possibly regrettable and hard to change (VHF vs. BETA).

Third degree:

Dependence on the initial conditions (one and two) and their outcomes is inefficient, but possible to fix, given the willingness to obtain a preferred outcome. Climate crisis is one example that is possible to fix given the practicalities and a set-aside of individual market logic. However, the company logic of first- and second-degree path dependency makes such a necessary shift unlikely.

Two exercises are investigated in the light of collaboration and different forms of path dependency: those of Øvelse Nord (2016) and SCOPE (2017).
2. Methodology

The data was collected through observations, semi-structured interviews, and reviews of associated frameworks and evaluation reports. Data was collected at multiple sites by the research groups during the two exercises. The sampling has followed the steps from ethnography [26].

The two selected cases were selected because of their similar size; they were both in a maritime environment involving multiple public agencies and professions. At Øvelse Nord 2016, a research group of four followed [27] the exercise at three different locations. A research group of six followed the SCOPE 2017 exercise from several locations, spread over the whole exercise period, including the pre-planning and evaluation conferences.

After both exercises, short and long interviews were transcribed, qualitative data was processed in SPSS 24, and texts were processed in MAXQDA 10 [28,29].

Informed consent was retrieved from the two exercise planning and organizer entities, and the study was part of an ongoing Norwegian research project, “Emergency Management and Interaction during Crises – in Maritime Context”, approved by the Norwegian Centre for Research Data (ref. 44815). The research is in compliance with the ethics concerning collection and storage of data made by NSD. In addition to the interviews and observations, data was generated from an internet-based survey (Questback) and sent to the participants that we had access to from the email list in the scripts and provided by exercise planners. The combined data sets contain 30 on-site interviews from a potential group of around 800 respondents or actors (N = 232, E = 820).

3. Results

Both cases and scenarios were in a maritime environment and context. The Øvelse Nord 2016 exercises were national, and those for SCOPE 2017 were international, related to the Copenhagen agreement [30], but were organized by the Norwegian Coastal Administration.

3.1. Exercise Nord 2016

The Exercise Nord 2016 was based on multiple scenarios; all together, approximately 1,500 actors participated in this exercise. It took place within an air traffic control zone in connection with the Bodø airport. The background for the exercise was a ship that had been to the coast of Greenland as a combined research and cultural expedition. Students, teaching staff, and a delegation from one military squadron were on board. The ship was now returning to Bodø. Around 6 a.m., difficulties were reported on board by the ship when approaching land; this turned out to be a fire when the ship approached Bodø. The exercise took approximately eight hours (with briefing and debriefing), closely timed in a 4-hour schedule underpinning the exercise’s perceived success. The structure of the event followed nine phases:

- Fire on board a vessel at sea involving the local RITS team
- In-sea evacuation from the vessel, involving both military and civilian rescue helicopters
- On-land salvage and first aid involving civil protection agencies
Air- and land-based medical transportation and coordination
Dangerous emissions from vessel
Stowaway, fleeing, and protection (asylum) challenges involving the police department
Training of trauma room capacity and coordination testing involving the local hospital
Reception and next-of-kin services
On-land fire alarm due to fuel leakage from SAR helicopter

This was followed by a “Hot Wash Up” or immediate evaluation one hour after the final phase, where different agency representatives summed up their views on the exercise. A final report is unknown to the researchers, but several intra-organizational evaluations were conducted. Four researchers observed the exercise, and we used a mixed-methods methodology consisting of both qualitative and quantitative questions. The procedures and instrument are described below. The use of exercise scripts was observed in use among several agencies and actors in the exercise. Most of the actors had intra-organizational learning objectives within the framework of the exercise.

3.2. SCOPE 2017

The SCOPE 2017 exercise was a full-scale maritime chemical oil-spill pollution collaboration exercise. The exercise occurred outside the coast of Norway. It included partners and participants from Norway, Denmark, Sweden, Iceland, and Germany. In total, 700 participants and staff were involved. SCOPE 2017 was an exercise replay of the Full City accident in 2009 [31], at the same location. The exercise was timed. Researchers observed that planned incidents were well known to some extent by the participants. There was little degree of an “iron curtain” between exercise control (DISTAFF) and some actors. This was the case because the exercise timeline was available on different sites and lying open for everyone to see; additionally, some of the participants attended planning conferences, thorough Health, security and environment (HSE) briefings, and media coverage in advance [32].

SCOPE 2017 was based on a scenario of a product tanker and a LPG-ship colliding in the area south of Langesund. The consequences of the accident were an oil spill at sea, which drifted into the shoreline, and a gas leak affecting the population in the Langesund area. The observed field part of the exercise consisted of:

- Chemical incident at sea
- Oil spill recovery operations at sea
- Oil spill recovery operations on the shoreline
- Investigation and evacuation/chemical incident at berth.

The exercise also included a notification and request for assistance, a claims workshop, and a place of refuge table-top exercise (organized outside the SCOPE project). The exercise was followed by two evaluation seminars and an evaluation report.

3.3. Comparison

Both exercises were collaboration exercises, and they took place within a maritime environment. There was extensive use of resources (helicopters, navy vessels, police, and
so on) and a relatively long planning time frame involving planners from different associations in both cases.

As shown in Table 2, there were similarities and differences between the two exercises. The problem addressed in this paper, the strict use of scripts, may be coloured by the logistics of the maritime sector. It takes time and planning to get multiple ships at a certain location. This can contain elements of boredom, low activity, and exercise interruptions caused by lunch or coffee. The outcomes were predictable. This would not have been the case in a "real" or sharp event. On occasions within the exercise, when things were wrong in the script (i.e. when the placing of oil booms was not commensurate with the current wind direction, or there were problems with getting drones in the air), these were reported in interviews to be the most educational elements by the interviewed participants. However, as we will discuss, there was little room for improvisation and creativity.

### 4. Discussion

A common trait that researchers found while observing the actors (coast guard, sea rescue) was that they had the timeline of the exercise at hand and available. Personnel knew what the exercises were all about, and they also knew what to do, following internal codes of practice and guidelines. This indicates that both exercises related more to the notion of "training" rather than "exercise" (DSB). Collaboration took place in the generic parallel and analogue forms, not synchronously. This can be seen as counterproductive if the exercise was about collaboration in crisis, where different forms and degrees of path dependency hamper preferred outcomes. If something unforeseen [21] happens, there might be a crisis where there is a resource deficiency and limitless interaction between participating organizations is necessary. This accentuates the need for improvisation and creativity among professions and organizations with specific responsibilities. During such circumstances, for example, staff from health care, police departments, or fire departments need to operate in realms outside of their professional scope [7].

Scripts, known by all, timed the performance of participating organizations. This was done to limit "down time" among trained personnel. The principle seemed to be to keep them busy and happy. HSE was another issue. There was zero tolerance of accidents and mishaps. With the involvement of large ships and helicopters, the timelines helped to avoid clogging, or too many unused resources in one hotspot simultaneously. Even worse, the timeline helped the organizers to avoid the possibility that something

<table>
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<tr>
<th>Comparison</th>
<th>SCOPE 2017</th>
<th>Øvelse Nord 2016</th>
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<tbody>
<tr>
<td>Collaboration partners</td>
<td>Multinational</td>
<td>National</td>
</tr>
<tr>
<td>Duration</td>
<td>4-day duration</td>
<td>1-day duration</td>
</tr>
<tr>
<td>Number of participants</td>
<td>N = 630 participants</td>
<td>N = 500 participants</td>
</tr>
<tr>
<td>Core planning team</td>
<td>Norwegian Coastal Administration</td>
<td>Multi-sector, UIN</td>
</tr>
<tr>
<td>Generic</td>
<td>Collaboration</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Timelines/script</td>
<td>Strict</td>
<td>Strict</td>
</tr>
<tr>
<td>Inter/intra-organizational objectives</td>
<td>Inter-organizational</td>
<td>Intra-organizational</td>
</tr>
<tr>
<td></td>
<td>multi-objective</td>
<td>multi-objective</td>
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unforeseen would happen. All of this can in this perspective be seen as a means to effectively prevent creativity and improvisation. Is this caused by path anchors, or dependency?

If we are seeing ourselves as immortal or immune to change, there is little incentive to make experiments with unknown results; “there is not always a need for organisational actors to escape path-dependencies” [24]. Path dependencies as found in the two script-based exercises can be interpreted as self-sufficient, and as a means in itself. In the two cases, exercise planners can be ridden by cognitive path anchors connected to blind spots connected to blind spots and creativity [33]. Emotional anchors can be connected to identity either by profession or work practice, with the potential of locking in pride of profession, not exposing weaknesses and doubt to “competing” emergency agencies. The third anchor, social or culture, can lock the exercises to do what we always do. We follow our “beta”, made in previous versions of the exercise. Lastly, resources represent a powerful lock-in. “We” should not “spend” resources in a way not accounted for.

Following New Public Management logics [34] on accountability, we need to know that our resources are used in the best way. On this account, achievable learning objectives are produced, designed to be measured [35], and something unforeseen and improvised is not thought of, because it is an unwelcome result. This can effectively block synchronous collaborative learning and improvisational skills. To quote a conversation on an evaluation seminar, “We have fulfilled our exercise plans/objectives”. Such an attitude is an example of both path anchors and path dependencies.

Path dependency can create personal, cultural, and organizational lock-in. The reign of NPM and an accountability culture can create blind spots of both the first and second degree, where initial actions that cannot be changed without some cost. The problems with our chosen path is unknown. Liebowitz [25] challenges us all with the third degree, a way to change our pathways. Dependence on the initial conditions (first- and second-degree) outcomes is inefficient, but possible to fix, given a willingness to obtain a preferred outcome. If we know that today’s exercise practice will not necessarily create learning and stimulate improvisation, then another way of training or a new practice is much needed. In other words, the unforeseen and improvisational skills [33] in emergency preparation should be trained, even if they are perceived as ineffective by the practitioners and planners.

5. Concluding Remarks

Training as a means to an end becomes vital. The end of all collaboration exercises should be a resilient society, where exercises are exercises and training is training. Increased creativity—a surplus of ideas [23]—can be seen as processes in direct opposition to path-dependent exercises. In the framework of path dependency, exercises will need to embrace more chaos and tolerance for unwanted incidents, where something unforeseen can happen and (unwanted) creativity and improvisation can flourish. Be bold.

To quote the adventure professor Peter Becker, “The new experience, which signals both dynamism and transformation at the same time, makes the adventurer’s past appear in a different light. It shows that the past is not closed and finished with. It does not determine us [humans] forever. It contains hidden possibilities which are just waiting to be used or activated” [36]. A changed perception among exercise planners towards acceptance of chaos and disorder as something useful can help us out of the unwanted
learning circles of confirmation and repetition. Only a more adventurous mindset among exercise directors can break the entrapment of path dependency in collaboration exercises.

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