

Exploring virtual facilitation of co-development

Exploring
virtual
facilitation

Heli Clottes Heikkilä and Anna-Leena Kurki

*Department of Digitalization, Finnish Institute of Occupational Health,
Helsinki, Finland*

37

Received 8 March 2024
Revised 29 May 2024
Accepted 7 June 2024

Abstract

Purpose – The purpose of this study is to investigate facilitator’s tools and actions in promoting interaction in virtual co-development.

Design/methodology/approach – In virtual environments, facilitation plays a crucial role. However, research does not provide many examples of tools and practices of virtual facilitation of co-development. To collect data, two virtual co-development processes were conducted. The data consisted of discussions during virtual workshops and was analyzed using both theory- and data-driven content analysis.

Findings – The discussions during the virtual co-development processes related on the topic and script of co-development and the use of digital technology. In co-development, both the facilitators and the participants take responsibility on the topic and the progression of the session. The facilitator needs to balance between offering the participants tools, supporting interaction and leaving empty space for the participants’ initiatives to enhance their agency.

Originality/value – The study underlines the importance of the script and tools in virtual facilitation as well as flexibility in the execution of co-development processes.

Keywords Digital platform, Virtual, Facilitation, Co-development, Co-creation, Agency

Paper type Research paper

1. Introduction

Facilitation plays a crucial role in building and sustaining learning and development in virtual environments (Juvonen and Toiviainen, 2024). The developmental efforts with partner organizations or customers can offer potential source of competitive advantage especially when operational environment is in constant transformation (Ivaldi *et al.*, 2022; Poblete *et al.*, 2023). For the organizations involved, they enable broader resources for revealing and interpreting complexity, and for responding to shared problems (Edwards, 2017; Ivaldi *et al.*, 2022; Roth and Vakkuri, 2023). In that the facilitator’s support is essential and helps combine the different expectations and objectives of organizations regarding shared development (Roth and Vakkuri, 2023). When development efforts are well facilitated, they enable reciprocal learning, sharing expertise and joint value creation (Edwards, 2017; Poblete *et al.*, 2023; Virkkunen and Newnham, 2013).

© Heli Heikkilä and Anna-Leena Kurki. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

The authors contributed equally to the article (i.e., study design, data analysis and writing the manuscript). The research was funded by the Finnish Work Environment Fund (grant no. 210307). The funder was not involved in the study design; the collection, analysis or interpretation of the data; or the writing of the article.



Implementing shared learning and development efforts in virtual communication environments is attractive both for the organizations and facilitators because it saves time and resources by enabling easy access for all participants, regardless of time and location (Evans *et al.*, 2019). Generally virtual communication environments include various types of platforms that enable social interaction and information transfer among a large number of people through audio, video, text and graphics (Sivunen and Laitinen, 2019). In this article, we focus on facilitation of co-development conducted with videoconferencing and whiteboard tools. With virtual interaction we refer synchronous discussions which are mediated by these tools.

Although virtual environments can provide new possibilities for co-development, they also challenge or limit the social interaction among the participants (Högberg and Willermark, 2023; Yoon *et al.*, 2020). The virtual mediation of interaction also hinders feeling of trust, construction of shared knowledge and creating innovative ideas (Schaefer *et al.*, 2019; Thompson, 2018). Therefore, facilitation plays an even more important role than in face-to-face settings in supporting engagement of and interaction between participants (Evans *et al.*, 2019; Juvonen and Toiviainen, 2024; Nurmi and Pakarinen, 2023).

However, research does not provide examples of the facilitation tools and practices that can support co-development efforts. Thus, it is important to investigate, make virtual facilitation transparent and develop its practices (Juvonen and Toiviainen, 2024). The aim of this study was to explore facilitators' actions and tools in promoting interaction in virtual co-development. Our data was collected from virtual co-development processes conducted in two different contexts: between service providers and their customer, and between peer organizations.

2. Theoretical background

2.1 *Co-development as a means of renewal*

In this study, we examine facilitation in relation to co-development in virtual environment. With the term co-development [1], we refer to facilitated interactional activity between the organizational partners as well as the service provider and customers, during which they analyze their activities and potentials of collaboration (Kurki *et al.*, 2024).

The dialogue is an essential element in co-development (cf. Galvagno and Dalli, 2014). Co-development proceeds through intentional actions, through which participants involved build links between their activities, share ideas and integrate their knowledge of objectives and intentions (Edwards, 2017). At the interactional level, this emerges through initiative and responsive turns oriented towards the object of discussion, taken by both participants and facilitators (Linell, 1998). The initiative turns taken by participants are essential for co-development as they bring new elements and ideas to the discussion (Linell, 1998). They enable critical or diverse perspectives and potential innovative ideas, which can easily remain hidden in virtual settings (Schaefer *et al.*, 2019; Zhao *et al.*, 2014). Through their initiatives participants also carry on the discussion by inviting others to respond (Linell, 1998). Responses, on the other hand, create coherence on the discussion by linking up with previous turns and presented ideas. Formative, facilitator-led interventions (Virkkunen and Newnham, 2013) are one way of supporting and sustaining initiatives in interaction and orchestrating virtual co-development.

2.2 *Facilitating co-development*

Facilitation and co-development are intertwined activities (Engeström and Sannino, 2012). In formative interventions the facilitator plays an active role, prepares the script and tools for co-development sessions and carries out planned tasks. They advance process by asking questions and encouraging participants to share their ideas and perspectives, as well as taking care of transitions (Evans *et al.*, 2019; Schaefer *et al.*, 2020; Virkkunen and Newnham, 2013;

Heikkilä and Seppänen, 2014; Juvonen and Toiviainen, 2024). Merely asking questions may not be a sufficient means to support the development of interaction. The way in which the person guiding the discussion asks questions has an impact on the type of response participants provide: Clarifying questions alone may not prompt the participants to elaborate on the content, especially if the questioner immediately moves on to, for instance, taking notes (Weiste and Vehviläinen, 2021).

In co-development, facilitation and script are intended to support participants' agency as opposed to facilitator-led discussions. Thus, participants' initiatives are important (Virkkunen and Newnham, 2013). By agency, we refer to talk actions through which participants take initiatives to influence how the co-development proceeds (Virkkunen and Newnham, 2013). However, the script which facilitator aims to implement through their facilitation actions and the process realized in practice do not fully coincide, as the participant involved are reforming the practical process (Engeström and Sannino, 2012). For facilitator, recognizing this gap is a resource for enabling participants emerging agency. The facilitator may provide room for fruitful discussions as well as the emerging agency of the participants by participating ideation and making content-related suggestions (Heikkilä and Seppänen, 2014; Virkkunen and Newnham, 2013).

In interventions aiming to foster co-development, it is desirable that participants take over the process (Engeström *et al.*, 2013). The participants may take initiative in the form of facilitation-like actions, assuming more responsibility for advancing the discussed content (Virkkunen and Newnham, 2013). These deviations of planned script represent manifestations of agency and initiatives by the participants (Heikkilä and Seppänen, 2014). On the other hand, Tiitinen *et al.* (2018) state that in peer support-based groups, participants find it difficult to deviate from the script. There may be barriers to requesting a turn to speak. The facilitator can consciously enable deviations and provide space for participants' initiatives and actions. The results of studies by Weiste *et al.* (2020) and Heikkilä and Seppänen (2014) demonstrate that even in goal-oriented discussions, it is important to allocate open time for freer conversation and questions, as this appears to enable participants to engage in exchanges about personal experiences.

The virtual environment itself may hinder or change the dynamics of the interaction between the participants in comparison to those in face-to-face settings (Högberg and Willermark, 2023). It narrows the interactional cues, for example, facial expressions and gestures, and this highlights the importance of using fillers like "yeah" to indicate listening (Thompson, 2018). However, in virtual workshops with several participants, the microphones are often muted to avoid extra noise. This restricts the use of the fillers, which is a risk for a continuity of interaction (ipid.).

To summarize, there is a need for further research on virtual facilitation of co-development. The facilitator intentionally applies actions and tools, which aim at provoking discussion and initiatives among the participants. This helps the participants to elaborate on the content to be developed. The research questions are as follows:

RQ1. What are the objects of discussion during the virtual workshops?

RQ2. What kind of chains of initiative interaction is provoked by facilitators actions and tools?

3. Data and methods

3.1 *The data: virtual change dialogue processes in two different contexts*

The data was drawn from two facilitated virtual co-development processes, both of which generated concrete ideas for inter-organizational partners to develop their services. Case 1, a

peer-to-peer process, engaged two regional public limited companies who were not competitors. They offered entrepreneur and business services and were seeking cooperation opportunities. Case 2 involved a service provider, a marketing communication company, and its three customer companies, developing their collaboration practices in relation to the customers' businesses.

The processes were facilitated by applying activity theory-based Change Dialogue (CD) (Heikkilä *et al.*, 2021). The method includes structured scripts for the facilitator, and analytical tools such as the Development Chart (Ahonen *et al.*, 2020; Nykänen *et al.*, 2022), to stimulate discussion on interacting systems of activities as well as help participants construct a shared object and explore potential ways of collaborating (Virkkunen and Newnham, 2013). The basic model of CD is presented in Figure 1.

The studied CD processes (2–3 * 2.5 h) were facilitated by researchers, the first author and their colleagues, using the Zoom video conferencing and the Flinga Canvas for script-based tasks and notes. The facilitators supported the process through carefully planned tasks based on the CD script and facilitated the discussions and operations on the platform. They planned discussion questions both for the general and small group discussions. The general discussions were recorded and transcribed as research data. In the workshops, facilitators guided the discussion according to the CD script by using script-based tools. Table 1 presents the CD processes studied.

Ethical pre-evaluation and institutional permission to use the data for research purposes were obtained from the Finnish Institute of Occupational Health's Ethics Committee (7th February 2022). Informed, audio-recorded consent was obtained from every participant. The anonymity of the participants was ensured by altering any details that could enable their identification in the text and the data excerpts.

3.2 Analytical process

We used content analysis (Silverman, 2010) to examine the interaction during the CD workshops to understand the facilitation actions and tools that enable virtual co-development. The analysis proceeded through several reading rounds, first inductively and were later informed by theory. The unit of analysis was a speaking turn (later "turn"). In the first and second phases of the analysis, the first author was responsible for the analysis of Case 1, and the second author analyzed Case 2. After this, they discussed and refined the

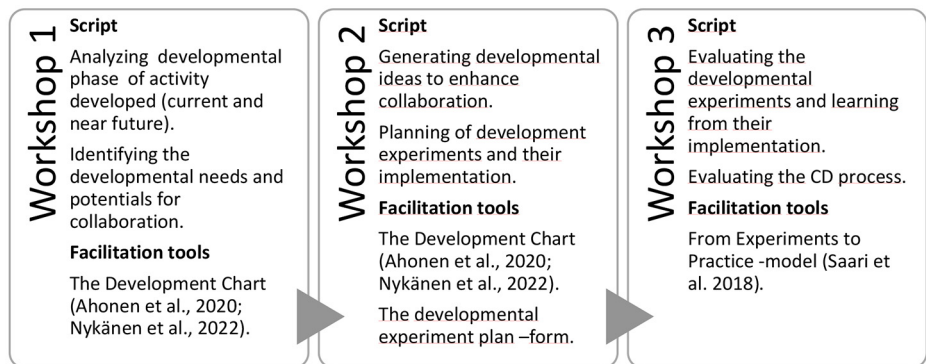


Figure 1.
The basic model of
CD

Source: Authors' work

Characteristics	Case 1: Change dialogue as a peer-to-peer process	Case 2: Change dialogue between the service provider and its customers
Activity developed	The entrepreneur and business services	The steering group between marketing communication company and their customers
Specific aim	To help organizations involved in seeking synergy and learning good practices from each other	To support service provider and their customer in developing collaboration practices
Participants	Total 8 participants; partly different participants in two workshops: Representatives of organization 1 ($n = 5$), e.g. director of economic development, business development officer and CEO Representatives of organization 2 ($n = 3$), e.g. business developer and development manager	Total 11 participants: Representatives of service provider ($n = 8$), e.g. customer relationship manager, project managers, digital service specialist and CEO Representatives of three customer organizations ($n = 3$), responsible for marketing communication in their own organizations
Facilitators	1st author and their colleagues	1st author and their colleagues
Special characteristics	The CD process consisted only Workshops 1 and 2	The Workshops 1 and 3 were conducted only for service provider's representatives. The customers took part in the workshop 2, during which they were offered the opportunity to reflect on and question the service providers' view of steering group activity As we were interested in facilitation of inter-organizational co-development, we excluded the first and third workshops of Case 2 from the data

Table 1.
The activity developed, and the aim, participants, facilitators and the specific characteristics of CD processes studied

Source: Authors' work

categories and classifications until they reached consensus. In the third phase, the authors conducted the analysis together.

In the first phase of the analysis, to answer *RQ1*, we applied Gedera's (2014; original by Falloon, 2011) classifications of multiple knowledges, which are needed for successful virtual co-development: *technical*, i.e. how to use the platform; *procedural*, i.e. how the workshop (script) proceeds; and *operational*, i.e. the speech related to the processing of the phenomenon or matter to be developed. Based on these, we formed the framework for the analysis. We classified each turn ($n = 649$), based on the object of discussion, into the following categories:

- use of the technology ($n = 158$);
- CD script ($n = 250$);
- work and its development ($n = 189$); and
- other ($n = 92$).

The 37 turns contained two different objects of discussion and were classified accordingly. The *Other* category was excluded from the analysis. Table 2 presents the classification criteria and example expressions found in the data.

In the second phase, we conducted a detailed analysis of the *Work and its development* category and classified every turn in this category as either an initiative or a response

Category	Classification criteria	Example
The use of technology	Instructions or questions on the use of the platform	<i>“. . .so, when you press the pen symbol again, you're able to access your own drawing. Or you can delete it.” “Oh, so it's not just a single click then.”</i>
The CD script	Turns <ul style="list-style-type: none"> • Explaining the script to the participants • Based on the script or the background theory of the development method 	<i>“. . .so, the Development Chart, first I'll tell you how this tool can be used to analyze the work, and then we've allocated time for you to describe the changes in your organization using this Chart as a tool. . .” “. . .So, I'd also like to ask you, how do you personally see this, if you think about the description on the Development Chart. . .”</i>
Work and its development	Turns related to the content of the activity to be developed	<i>“. . .in the next monthly meeting, we'll immediately start using it, so we can agilely test it right away in October. . .” “I don't know where our work is really heading. It's a bit like I mentioned earlier, I'm a bit afraid that we don't currently understand what this new operating model is.”</i>
Other	Turns <ul style="list-style-type: none"> • That the transcriber has marked as unclear • That are not directly connected to previous objects of talk 	<i>“[??]” “Yeah, good morning, everyone.”</i>

Table 2.
Classification criteria
and data examples

Source: Authors' work

(Linell, 1998; Heikkilä and Seppänen, 2014). The turns that were proactive, opinion-giving, or included questioning or expanding on the theme were classified as initiatives ($n = 62$). Declarative turns, for example, answers to questions, were classified as responses ($n = 127$).

In the third phase, to understand initiative turns in the context of wider discussion, we selected topical episodes that contained one or more participants' initiatives for the analysis. To answer RQ2, we used data-driven categorization and examined what kind of facilitators' actions or CD script-based tasks stimulated chains of initiative interaction. Next, based on the three phases of the analysis, we present our findings, and answer RQ1 and RQ2.

4. Results

Next, we present the results of the analysis. We show that the discussion during the virtual workshops was related on three different objects, namely, “the use of technology”, “the CD script” and “work and its development”. We also demonstrate that by offering tools and support, and leaving empty spaces for participants' discussions, facilitators enable participant initiatives and chains of initiative interaction.

4.1 What are the objects of discussion during the virtual workshops?

The discussions during the virtual CD workshops related to three different objects of discussion, which are presented in Table 3 along with the distribution of turns between them. It is important to note, that the length of the turns varied, the number of turns does not directly reflect the amount of speech (words) in the data.

As the workshops were conducted in a virtual environment, the instructions and questions relating to the technical use of the platforms inevitably took time, and *the use of technology* formed the first object of discussion in the workshops. The facilitators also advised the participants and the participants asked questions about the way in which the tools are supposed to use during the workshops. Various transitions from the videoconferencing platform to the virtual canvas, and changes of presenter also generated this kind of discussion. It is worth noting, that the participants in Case 1 were more accustomed to using digital tools than the client participants in Case 2, which may explain the different results of the cases.

Secondly, *the CD script* became the object of discussion. It was manifested especially in the facilitators' turns. The facilitators explained the script to the participants, gave instructions for the script-based tasks and commented on the participants' discussions based on the script or the CD theory. The participants contributed less to this object. When they did, they asked questions or expressed uncertainty about their role or the progress of the workshops and co-development, expressed wishes to comment and discussed how groups should be formed for the groupwork. However, they neither questioned the facilitator nor presented suggestions to deviate from the script.

The speech related to the content of the developed activity was categorized *Work and its development*. However, a relatively small proportion of the turns – approximately one-third of all the workshop discussions – fell under this category representing the actual content of the workshop, work activity to be developed. Both the participants and the facilitators contributed to the discussions. The initiative and responsive turns alternated: The actors presented their interpretations and suggestions related the phenomenon being discussed (e.g. collaboration), but also bridged their turns to the previous discussion.

The facilitators managed the progression of the discussion, the workshop atmosphere, and the diversity of voices by presenting clarifying questions and synthetizations of discussion. However, they also proposed interpretations of the discussed content and, for example, introduced a new concept, partnership, that described the phenomenon being discussed. In addition, they presented questions that went beyond the script and sought additional information on a particular theme or intentionally suggested interpretations. One facilitator made a direct development suggestion and participated actively in refining development proposals. Thus, the facilitator not only participated in moving the script forward, but also in working on and ideating the content to be developed.

The participants, in turn, responded to the facilitator's script-led questions or tasks in the workshop, such as sharing their Development Charts or ideas for developmental tasks. The various turns included direct or indirect questions on current practices and future work models, as well as interpretations of the direction of changes. During these turns, the participant could refer to the tools used in the workshop script (e.g. the Development Chart).

Part of data	Object of talk			Total (%)
	The CD script (%)	The use of technology (%)	Work and its development (%)	
Case 1, 1st workshop	47.7	12.9	39.4	100
Case 1, 2nd workshop	44.9	15.9	39.1	100
Case 2, 2nd workshop	38.2	36.4	25.4	100

Source: Authors' work

Table 3.
Distribution of turns during CD workshops (% of turns, excluding other category)

Sometimes, they also invite other participants to comment or take a stand. The participants came up with solutions and made direct and indirect development proposals or further developed others' proposals (e.g. the customer described to the service provider what worked in their own organization). In other words, the participants not only worked on the content to be developed. They also contributed to the facilitation by inviting other participants to comment and take a stand.

4.2 What kind of chains of initiative interaction is provoked by facilitators actions and tools?

A data-driven review of the initiatives showed that they mostly followed one another. The data contained 16 topical episodes, related to "work and its development", with one or more initiatives. From these episodes, we found three types of chain, starting with the facilitators' actions or script-based tools, which were then followed by the participants' initiatives, which finally led to a certain type of consequence. We named the types as follows:

- from script-based tools and tasks back to the script;
- facilitator's open questions and support; and
- using empty space.

Next, we present these types in more detail.

4.2.1 Type 1: from script-based tools and tasks back to the script. The first and most common type of chain involved moving *From script-based tools and tasks back to the script* (10 episodes). It emerged in episodes in which a specific tool or task related to the CD stimulated the participant to make initiatives. The initiatives led to other participants' comments (mainly directed to the facilitator), or discussion among the participants on the tool or task in question. The episodes ended with the facilitator returning to the next task in the workshop script.

The several episodes of this type were related either to the Development Chart or an intermediate task based on the Chart. The example (from Case 1) is an episode that began with the facilitator asking the participants to reflect on their own situation based on the chart. It continued with the participants' responsive turns, in which they referred to change descriptions (Development Chart model), for example "*In the middle [...] almost all of us are there*". As Table 4 shows, the initiative turns started after the facilitator asked a few participants who had not yet expressed their own viewpoint to comment on how they would place themselves in the change described on the Chart. In their turns, the participants reflected on the changes in their work, expressed concerns about the near future, and questioned the interpretation of the change in their work. The episode concluded with the facilitators praising the participants' insights. The facilitators did not encourage the participants to expand on their questioning reflections. Instead, they returned to the workshop script, aiming to continue the workshop according to the script.

In addition to the Development Chart, the other tasks related to the CD script, such as presenting developmental proposals and selecting the developmental experiments for implementation, also evoked Type 1 chains.

In summary, the tool or task belonging to the CD's script succeeded in stimulating the participants to take initiatives. On the other hand, these episodes did not always result in a discussion among participants or a deeper look at the topic. Even though the facilitators seemed empathetic and showed that they were listening, sticking to the script may have prevented them from giving space to the themes raised by the participants. This could cause a break in any reflection that has begun.

Turn	Speaker	Type of	Excerpt
9	Participant A (Org. 1)	Initiative: participant reflects on how the customary way of work conflicts with that in 'near future'	<i>It [Development Chart] made me realize that work is undergoing a transformation. . . we have new ways of working and new tools . . . if you're old school, used to doing your work . . . visiting customers and preparing well, inevitably you'll collide with this new world . . . I can't place myself on that [Chart] yet, but maybe the optimal position would be somewhere in the Middle . . .</i>
10	Participant B (Org.1)	Initiative: participant expresses their concerns about 'near future' and questions the interpretation made using the developmental chart	<i>. . . I haven't figured out yet, from this [Development Chart], what this new model is . . . the business service has somewhat forcibly shifted more toward the digital . . . some might think that local services aren't needed. Even support for new companies, concrete experiments are going on in which you don't meet the customer at all. I don't know where our work is really heading. . . I'm afraid that we don't really know what that new model is at the moment</i>
11	Participant C (Org.1)	Initiative: participant questions the interpretation of the "near future"	<i>This is still service work, so it's the customers' needs that determine how they're served. The operating model will take shape accordingly. If the service and the customer don't meet, then the service becomes meaningless</i>
12	Facilitator A	Script-based comment and question	<i>Good reflections . . . Does anything else come to mind about the current model or the new one? . . .</i>
13	Facilitator B	Script-based comment	<i>I really agree. It's good that you're thinking about it . . . that we have some things we can already start experimenting with . . . [trying out the next phase in the script]</i>

Table 4.
Example of type 1
episode; turn (serial
number), speaker,
type of turn and
excerpt

Source: Authors' work

4.2.2 Type 2: facilitator's open questions and support. The second type of chain, *Facilitator's open questions and support* (four episodes), included instances in which the facilitator's question or content-related comment triggered initiative speech. The question was based on either the script or emerged from the development content, such as a summary or interpretation proposal, for which the facilitator sought the participants' comments or approval. In these episodes, the facilitator sustained the discussion with their follow-up questions and comments. What followed from the participants' initiatives related to these facilitative actions was an examination of current practices, at times even questioning them, and the direct and indirect identification of areas needing improvement.

The following example (from Case 2) is a typical Type 2 episode. It began with a facilitator's question directed at the customer, inviting them into a discussion on the customers' ideas about the future perspectives of their own organizations and the need for the steering group's activities. The discussion continued with the customers' responses, in which they described the benefits of the steering group practice from their perspective. The facilitators summarized the turns and the service providers' insights from the discussion. As presented in [Table 5](#), the facilitator, however, continued to ask for more insights from the customers, which led to long, analytical, and mildly critical initiatives from the customers that questioned the current approach to service delivery. This led the service provider to take the initiative and acknowledge the identified challenges in service development.

Turn	Speaker	Type of turn	Excerpt
9	Facilitator A	Script-based question	<i>Alright. So, Linda and John [customers], would you like to comment on the role of the steering group, where you see it heading in the near future from your perspective, or what specifically interests you from your point of view?</i>
10	Customer A	Initiative: participant reflects on current practice and its developmental needs	<i>Indeed, the role of communication and marketing in the company. It [steering group] supports it, so it's really good. . . . But in our monthly meetings . . . maybe there's still a need for a certain kind of predictability . . . to have some idea of what's coming . . . clarity and . . . structure</i>
11	Facilitator A	Script-based comment	<i>Alright. Thank you</i>
12	Customer B	Initiative: participant questions the current practice by highlighting the need for forward planning	<i>Yeah, I agree, a certain systematic approach, so that it's not always just putting out fires and looming deadlines. . . the more we can lead, forecast, and plan, the more clarity it brings to our daily work</i>
13	Facilitator A	Script-based question	<i>Thank you. What about the others? Carol?</i>
14	Service provider A	Initiative: participant presents their view on how the current practice should be improved	<i>I agree, especially when there are changes in the team . . . we've seen this as an area that needs improvement, that the steering group's work would be consistent, equally managed . . . also how to define what matters are brought up there [in the steering group]. The most important ones, forward-looking ones, and the others could be discussed separately . . . But some good comments from you there</i>
15	Customer C	Response: participant confirms the view presented by previous speaker	<i>It's just as you said . . . there've been changes in our team . . . collaboration has been good, and then it's announced that this person is leaving, and it's a bit like, oh no . . . But I've also seen the positive side of it, having a new person brings a fresh perspective, for example, their view on reporting and their role, so I've also liked that</i>
16	Facilitator A	Script-based question	<i>Great. Any other questions?</i>

Source: Authors' work

Table 5.
Example of type 2 episode; turn (serial number), speaker, type of and excerpt

As the example shows, Type 2 is characterized primarily by the facilitator's role in supporting the conversation. Unlike in Type 1, the facilitator did not rush forward according to the script but instead invited multiple participants to comment and provided clarifications or summaries of the discussion. This generated initiative speech from the participants, in which they critically reflected on the issues and current practices and focused on future actions. However, the facilitator did not delve into the participants' questioning turns, which could have deepened their analysis.

4.2.3 Type 3: using empty space. The third type of chain we call *Using empty space* (two episodes). The episodes started with the participants' initiatives filling an empty space (cf. Heikkilä and Seppänen, 2014). They occurred when the facilitator verbally expressed that they would not be speaking or were about to close the discussion. This was followed by a participant's initiative, in which they actively brought up a new, personally relevant topic.

The other participants contributed with answers, and the discussion led to concrete suggestions as to what could be done next.

The example presented in [Table 6](#) (from Case 1) shows that after the facilitator had informed the group that they would be focusing on writing down notes on the virtual canvas for a while, a representative of the peer organization asked the others a question with the aim of obtaining additional information on a topic that had not yet been discussed. A long discussion followed, with both initiative and responsive turns by all the participants, including the facilitator. The responsive turns also included fillers, with which the participants indicated that they were listening. The result was a development proposal: a joint benchmarking trip to an exemplary destination.

Episodes of Type 3 were not planned in the workshop script. They arise from the participants' spontaneous initiatives related to matters that are important to them. These episodes contain ideation, appreciation and elaboration of others' ideas, as well as a commitment to concrete actions across organizational boundaries. The facilitator allowed the discussion to progress and eventually participated in it with an initiative of their own.

5. Discussion

The purpose of this study was to examine the facilitation of virtual co-development. To collect data, we arranged two CD processes, with peer organizations and with service providers and clients. The results show that the facilitators play an important role by offering tools and support, and by leaving empty spaces for participant discussions they enable the participants' initiatives and thus enhance their agency. In practice, both the facilitators and participants take responsibility of the workshop session. This includes carrying the script and developing the topic, as well as using the platform.

5.1 *Facilitator as enabler of initiative interaction*

The most important aspect in facilitating virtual co-development is to support participants' interaction on the developed topic and their agency to transform the activities ([Virkkunen and Newnham, 2013](#); [Heikkilä and Seppänen, 2014](#)). Interestingly, our results show that a relatively small part of the discussions in the CD workshops was related to the work activity under development. However, these discussions comprised multiple chains of initial interaction in which participants brought new elements such as ideas and opinions into discussion, questioned the current practice or expanded the theme and fostered co-development by inviting others to respond ([Linell, 1998](#); [Heikkilä and Seppänen, 2014](#)).

The script-based tools are the facilitators' means to provoke initiative interaction on the topic developed ([Virkkunen and Newnham, 2013](#)). However, the script is a double-edged sword. Our analysis shows that CD tools enable chains of initiative interaction, but returning to the script too quickly may prevent the elaboration of ideas and questioning central to co-development (cf. [Weiste and Vehviläinen, 2021](#)). On the other hand, detailed instructions, and explanations of the purpose of the tools being used provides the participants with important *procedural understanding*: how the meeting is intended to be conducted (etiquette) and how to proceed (script) ([Gedera, 2014](#)).

In addition, various script- or content-based as well as follow-up questions or comments by the facilitator were important in evoking participant initiatives. In formative interventions it is typical that both facilitators and participants contribute to the development of the content, and the facilitative actions that advance the content and maintain the workshop atmosphere ([Virkkunen and Newnham, 2013](#)). Thus, facilitators sustaining questions and comments are effective in both generating initiatives and elaborating the content ([Juvonen and Toiviainen, 2024](#); [Weiste and Vehviläinen, 2021](#)). We state that they also show the importance of facilitation

Turn	Speaker	Type of turn	Excerpt
1	Facilitator A	Script-based comment; comment on use of digital platform	<i>... like you described, there are many actors involved in the same issue, so. If you're wondering what I'm doing here, I'm taking notes of what you observed and what you paid special attention to. [keyboarding]</i>
2	Participant B (Org. 1)	Initiative: participant asks a question about the practices of the peer organization	<i>I'd like to ask Organization 2 whether you have anything regarding investing? What do you do to attract entrepreneurs to your area or things like that? How does it show in your work?</i>
3	Participant D (Org. 2)	Response: participant describes their practices	<i>The municipalities are responsible for new business acquisitions ... if we start attracting new businesses, then how can we be fair ... for example, Municipality A had this business agent experiment, in which the business agent's job involved investment services and new business acquisitions</i>
4	Participant E (Org.1)	Response: participant describes their practices	<i>Yeah, and investment services need some real estate business on the side, and we don't have that. Real estate ownership belongs to the municipalities</i>
5	Participant D (Org. 2)	Response: participant agrees	<i>Same thing</i>
6	Participant E (Org.1)	Initiative: participant highlights the problem related to their activity	<i>But another thing is that in our region, there are very few business premises. Investment services, of course, need available premises. How can funding work when municipalities don't want to take big risks?</i>
7	Participant D (Org. 2)	Response: participant agrees	<i>To invest</i>
8	Participant E (Org. 1)	Response: participant agrees	<i>Exactly</i>
9	Facilitator A	Script-based question	<i>Alright, what else?</i>
10	Participant F (Org. 2)	Initiative: participant suggests benchmarking to find a potential solution	<i>When it comes to investing, we should go and see Town B to see how they've done it</i>
11	Participant G (Org. 1)	Response: participant agrees and describes the target of benchmarking	<i>We should go on a benchmarking trip there, because they have 100,000 m² of municipal space and 100,000 m² of privately owned space. And two new industrial areas are being built right now, it's quite a place</i>
12	Participant D (Org. 2)	Initiative: participant elaborates on what should be benchmarked	<i>Yeah, and it's also important to consider how the infrastructure works there</i>
13	Participant G (Org. 1)	[classified as other]	[unclear speech]
14	Participant D (Org. 2)	Response: participant expresses admiration	<i>What they do, it's awe-inspiring. . .</i>
15	Participant G (Org. 1)	Response: participant agrees	<i>Yes</i>
16	Facilitator A	Initiative: facilitator presents an outlining question	<i>So, are you going to plan a field trip to Town B?</i>

Source: Authors' work

Table 6.
Example of type 3 episode; turn (serial number), speaker, type of turn and excerpt

skills: Merely following the planned script of a certain method, i.e. CD, is not enough. It is even desirable that participants take over the process at some point, which may cause deviations from the script (Engeström *et al.*, 2013; Virkkunen and Newnham, 2013).

Even if the participants contributed to the facilitation, such as ensuring a good atmosphere, the facilitator providing overly detailed background information may inadvertently discourage participants from questioning or challenging the script itself (Tiitinen *et al.*, 2018). This is underlined by our finding regarding what we call *using empty space* (cf. Heikkilä and Seppänen, 2014; Weiste *et al.*, 2020). Empty space emerged unintentionally when the facilitator had to keep silent for a while. The space was filled by a participant initiative concerning a personally relevant topic. A vivid discussion emerged, in which the participants reinforced each other's opinions and expressed listening by using fillers (Thompson, 2018) and eventually agreed on a joint development idea. Thus, to enhance the quality of facilitation, it is important to balance between a planned script and empty space, as this allows participants to initiate even new topics of discussion.

5.2 Facilitation in virtual environments

In facilitation, the platform is not important as such: relevant is how it supports facilitator in provoking interaction between participants and applying the script and script-based tools – in our case sustaining co-development between participants. Our results indicate that virtual environment narrowed the interaction during the workshops. The discussion was mainly facilitator-led and less participant-oriented. Video-mediated linguistic cues and minor use of fillers may have challenged the facilitator in recognizing the moments where space is needed for participants' reflection (Thompson, 2018). Thus, facilitators easily returned to the script to ensure the continuity of interaction.

The results show that the discussions related to the platform and its use occupied a significant part of all the turns during the co-development. The facilitators answered the participants' questions and provided technical knowledge (Gedera, 2014). Especially the transitions between the platforms (videoconferencing and canvas) increased the discussion on the technology. The facilitators should, thus, prefer platforms that are already familiar to the participants and consider how to avoid fragmentation caused by switching between platforms, or how to take these transitions into account and allow flexibility.

5.3 Limitations and needs for further research

The analysis focused on interaction and the facilitation of the general discussion in virtual workshops, and the findings should be interpreted in relation to this. The data did not show how the facilitators' actions affected the small group discussions, or if the discussion on "work and its development" was more abundant in small groups than in general discussions. In addition, the analysis did not focus on potential power dynamics within the group and how facilitator pays attention to these. These would be worth studying.

A further methodological limitation is that the data is collected, and conclusions are drawn from two empirical cases. The sample is small and potentially non-representative. This restricts the generalizability of the findings, as the results may not accurately reflect broader trends or be applicable across different organizational contexts, industries, or cultural settings. In the future studies, it would be beneficial to examine the facilitator's decision-making regarding facilitation during a workshop, using a reflective method (e.g. Kloetzer *et al.*, 2015). It is also important to explore how facilitators can overcome the limitations associated with virtual interaction.

6. Conclusion

Facilitator's support is essential in virtual co-development. To foster participants' initiative interaction, the facilitator typically applies a script and tools which help participants to elaborate on the content developed. However, based on our results, we argue that facilitators need to balance between following the script and supporting the participants' roles as facilitators. The facilitator should be sensitive to and encourage ongoing interaction by creating space for participants' open dialogue that deviate from the script – to expand on the topic and take facilitative actions. In practice, this means that in the virtual workshops the facilitator should be active in asking open questions and making content-related comments but simultaneously be sensitive to notice minor use of fillers and weak linguistic cues, which indicate that participants are processing the topic discussed. Yet, the desire for tightly executed development processes poses a challenge to applying these principles. To conclude, facilitators should acquire multifaceted skills and implement them in the flow of a virtual workshop discussion.

Note

1. Co-development is commonly combined with the concepts of co-configuration or co-creation, which refer to collaboration between service providers and their customers (Galvagno and Dalli, 2014), and not to collaboration between organizations (Lember *et al.*, 2019).

References

- Ahonen, H., Virolainen, L. and Gardemeister, S. (2020), "Havahdu oppimaan alati kehkeytyvää oppimisesta kompleksisessä työelämässä", in Vartiainen, P. and Raisio, H. (Eds), *Gaudeamus, Johtaminen Kompleksisessa Maailmassa*, pp. 229-248.
- Edwards, A. (2017), "Revealing relational work", in Edwards, A. (Ed.), *Working Relationally in and across Practices. A Cultural-Historical Approach to Collaboration*, Cambridge University Press, New York, NY, pp. 1-21.
- Engeström, Y. and Sannino, A. (2012), "Whatever happened to process theories of learning?", *Learning, Culture and Social Interaction*, Vol. 1 No. 1, pp. 45-56, doi: [10.1016/j.lcsi.2012.03.002](https://doi.org/10.1016/j.lcsi.2012.03.002).
- Engeström, Y., Rantavuori, J. and Kerosuo, H. (2013), "Expansive learning in a library: actions, cycles and deviations from instructional intentions", *Vocations and Learning*, Vol. 6 No. 1, pp. 81-106, doi: [10.1007/s12186-012-9089-6](https://doi.org/10.1007/s12186-012-9089-6).
- Evans, S.M., Ward, C. and Reeves, S. (2019), "Online interprofessional education facilitation: a scoping review", *Medical Teacher*, Vol. 41 No. 2, pp. 215-222, doi: [10.1080/0142159X.2018.1460656](https://doi.org/10.1080/0142159X.2018.1460656).
- Falloon, G. (2011), "Making the connection: Moore's theory of transactional distance and its relevance to the use of a virtual classroom in postgraduate online teacher education", *Journal of Research on Technology in Education*, Vol. 43 No. 3, pp. 187-209, doi: [10.1080/15391523.2011.10782569](https://doi.org/10.1080/15391523.2011.10782569).
- Galvagno, M. and Dalli, D. (2014), "Theory of value co-creation: a systematic literature review", *Managing Service Quality*, Vol. 24 No. 6, pp. 643-683, doi: [10.1108/MSQ-09-2013-0187](https://doi.org/10.1108/MSQ-09-2013-0187).
- Gedera, D.S.P. (2014), "Students' experiences of learning in a virtual classroom", *International Journal of Education and Development Using Information and Communication Technology, (IJEDICT)*, Vol. 1 No. 4, pp. 93-101, available at: www.learntechlib.org/p/150708/.
- Heikkilä, H. and Seppänen, L. (2014), "Examining developmental dialogue: the emergence of transformative agency", *Outlines. Critical Practice Studies*, Vol. 15 No. 2, pp. 5-30, doi: [10.7146/ocps.v15i2.16829](https://doi.org/10.7146/ocps.v15i2.16829).
- Heikkilä, H., Ylisassi, H., Olin, N. and Uusitalo, H. (2021), "Muutosvuoropuhelu: miten kehittää yhteistä ja omaa työtämme", available at: www.urn.fi/URN:ISBN:9789522619648

- Högberg, K. and Willermark, S. (2023), "Am I supposed to call them? Relearning interactions in the digital workplace", *Journal of Workplace Learning*, Vol. 36 No. 9, pp. 1-18, doi: [10.1108/JWL-03-2023-0056](https://doi.org/10.1108/JWL-03-2023-0056).
- Ivaldi, S., Scaratti, G. and Fregnan, E. (2022), "Dwelling within the fourth industrial revolution: organizational learning for new competences, processes and work cultures", *Journal of Workplace Learning*, Vol. 34 No. 1, pp. 1-26, doi: [10.1108/JWL-07-2020-0127](https://doi.org/10.1108/JWL-07-2020-0127).
- Juvonen, S. and Toiviainen, H. (2024), "Productive online interactions for developing the impact of continuous learning", *Scandinavian Journal of Educational Research*, pp. 1-16, doi: [10.1080/00313831.2024.2308873](https://doi.org/10.1080/00313831.2024.2308873).
- Kloetzer, L., Clot, Y. and Quillerou-Grivot, E. (2015), "Stimulating dialogue at work: the activity clinic approach to learning and development", *Francophone Perspectives of Learning through Work: Conceptions, Traditions and Practices*, Springer International Publishing, Cham, pp. 49-70.
- Kurki, A.L., Weiste, E., Toiviainen, H., Käpykangas, S. and Ylisassi, H. (2024), "Co-development of client involvement in health and social care services: examining modes of interaction", *Journal of Health Organization and Management*, Vol. 38 No. 9, pp. 19-35, doi: [10.1108/JHOM-10-2022-0310](https://doi.org/10.1108/JHOM-10-2022-0310).
- Lember, V., Brandsen, T. and Tönurist, P. (2019), "The potential impacts of digital technologies on co-production and co-creation", *Public Management Review*, Vol. 21 No. 11, pp. 1665-1686, doi: [10.1080/14719037.2019.1619807](https://doi.org/10.1080/14719037.2019.1619807).
- Linell, P. (1998), *Approaching Dialogue: Talk, Interaction and Contexts in Dialogical Perspectives*, John Benjamins Publishing, Vol. 3.
- Nurmi, N. and Pakarinen, S. (2023), "Virtual meeting fatigue: exploring the impact of virtual meetings on cognitive performance and active versus passive fatigue", *Journal of Occupational Health Psychology*, Vol. 28 No. 6, pp. 343-362, doi: [10.1037/ocp0000362](https://doi.org/10.1037/ocp0000362).
- Nykänen, M., Kurki, A.L. and Airila, A. (2022), "Promoting workplace guidance and workplace-school collaboration in vocational training: a mixed-methods pilot study", *Vocations and Learning*, Vol. 15 No. 2, pp. 317-339, doi: [10.1007/s12186-022-09289-5](https://doi.org/10.1007/s12186-022-09289-5).
- Poblete, L., Eriksson, E., Hellström, A. and Glennon, R. (2023), "User involvement and value co-creation in well-being ecosystems", *Journal of Health Organization and Management*, Vol. 37 No. 9, pp. 34-55, doi: [10.1108/JHOM-11-2022-0339](https://doi.org/10.1108/JHOM-11-2022-0339).
- Roth, M. and Vakkuri, J. (2023), "Sosiaali-ja terveystien innovaatioekosysteemi hybridihallinnan järjestelmänä – institutionaalisten logiikkojen näkökulma", in Rannisto, P.-H. Rannisto, Leponiemi, U., Nordling, N. and Kolehmainen, J. (Eds), *Sosiaali-ja Terveystien Innovaatioekosysteemit*, Tampere University Press, Tampere, pp. 85-114, doi: [10.61201/tup.878](https://doi.org/10.61201/tup.878).
- Schaefer, T., Fabian, C.M. and Kopp, T. (2020), "The dynamics of online learning at the workplace: peer-facilitated social learning and the application in practice", *British Journal of Educational Technology*, Vol. 51 No. 4, pp. 1406-1419, doi: [10.1111/bjet.12894](https://doi.org/10.1111/bjet.12894).
- Schaefer, T., Rahn, J., Kopp, T., Fabian, C.M. and Brown, A. (2019), "Fostering online learning at the workplace: a scheme to identify and analyse collaboration processes in asynchronous discussions", *British Journal of Educational Technology*, Vol. 50 No. 3, pp. 1354-1367, doi: [10.1111/bjet.12617](https://doi.org/10.1111/bjet.12617).
- Silverman, D. (2010), *Doing Qualitative Research*, 3rd ed., SAGE Publications, London.
- Sivunen, A. and Laitinen, K. (2019), "Digital communication environments in the workplace", in Mikkola, L. and Valo, J. (Eds), *Workplace Communication*, Routledge, New York, NY.
- Thompson, J.B. (2018), "Mediated interaction in the digital age", *Theory, Culture and Society*, Vol. 37 No. 1, pp. 3-28, doi: [10.1177/0263276418808592](https://doi.org/10.1177/0263276418808592).
- Tiitinen, S., Laitinen, J., Ruusuvuori, J. and Weiste, E. (2018), "Ryhmäohjauksen vuorovaikutusmekanismit vertaistuen kokemusten taustalla", *Psykologia*, Vol. 53, pp. 5-6.
- Virkkunen, J. and Newnham, D.S. (2013), *The Change Laboratory. A Tool for Collaborative Development of Work and Education*, Sense Publishers, Rotterdam.

- Weiste, E. and Vehviläinen, S. (2021), "Keskustelunalyysi interventiotutkimuksessa", in Nissi, R., Simonen, M. and Lehtinen, E. (Eds), *Kohtaamisia Kentällä: Soveltava Keskustelututkimus Ammatillisissa Ympäristöissä*, Finnish Literature Society, Helsinki, doi: [10.21435/skst.1471](https://doi.org/10.21435/skst.1471).
- Weiste, E., Tiitinen, S., Vehviläinen, S., Ruusuvuori, J. and Laitinen, J. (2020), "Counsellors' interactional practices for facilitating group members' affiliative talk about personal experiences in group counselling", *Text and Talk*, Vol. 40 No. 4, pp. 537-562, doi: [10.1515/text-2020-2068](https://doi.org/10.1515/text-2020-2068).
- Yoon, S.A., Miller, K., Richman, T., Wendel, D., Schoenfeld, I., Anderson, E. and Shim, J. (2020), "Encouraging collaboration and building community in online asynchronous professional development: designing for social capital", *International Journal of Computer-Supported Collaborative Learning*, Vol. 15 No. 3, pp. 351-371, doi: [10.1007/s11412-020-09326-2](https://doi.org/10.1007/s11412-020-09326-2).
- Zhao, H., Sullivan, K.P. and Mellenius, I. (2014), "Participation, interaction and social presence: an exploratory study of collaboration in online peer review groups", *British Journal of Educational Technology*, Vol. 45 No. 5, pp. 807-819, doi: [10.1111/bjet.12094](https://doi.org/10.1111/bjet.12094).

Corresponding author

Heli Clottes Heikkilä can be contacted at: heli.clottes.heikkila@ttl.fi