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Three degrees of influence in virtual workshops: Towards an understanding of co-creative facilitation practice in technologically mediated settings

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Three degrees of influence in virtual workshops: Towards an understanding of co-creative facilitation practice in technologically mediated settings

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Abstract: Virtual workshops look here to stay, however much of the recent discourse focuses on methods, tools, techniques and routines in abstraction from practice and practitioner. Collaborations in virtual space are necessarily changed and shaped by their technologically mediated nature. Therefore, it is imperative to enter into reflective dialogue to effectively develop future participatory and co-creative design practice in virtual settings. Several significant phenomena, occurring within virtual workshops, have been identified through focused co-reflection by expert design facilitators. Duality is used as a rhetorical device to explore these phenomena as complex *elements* that are expressions of dynamic and intertwined influences within the virtual setting. These elements are simultaneously experienced as both enablers and barriers in virtual workshops, and are negotiated through practice. This paper positions these elements as objects for critical reflection within a propositional model of three expanding degrees of influence; stage, setting, and environment.

Keywords: virtual collaboration, design facilitation, design innovation, reflective practice.

1. Introduction

It is suggested that COVID-19 is transitioning from pandemic to an endemic disease (Charumilind et al., 2021; Phillips, 2021), although the disruption of this crisis is still being felt. Ways of working have been significantly impacted but, amongst the negative impacts of this disruption, there have also been positive outcomes. Remote working has been proven effective at scale (Lund et al., 2021, p. vi), favourable in terms of flexibility (Smet et al., 2021, p. 2), and can contribute to an organisation's resilience (Baker, 2021). Indications suggest a future where remote working remains common, or continues to grow in prevalence. Either way, it is here to stay and therefore a stronger understanding of collaboration in virtual settings is required.



Workshop-style interventions are a common form of engagement activity across most sectors. The term workshop describes “an arrangement whereby a group of people learn, acquire new knowledge, perform creative problem-solving, or innovate in relation to a domain-specific issue” (Ørngreen & Levinsen, 2017, p. 71). The pandemic has catalysed a rapid shift towards virtual, rather than in-person workshops (Becerra et al., 2021; Kent et al., 2020; Mennig & Tamanini, 2021; Samiei et al., 2020; Thorwid, 2020; Wilkerson et al., 2020; Zimmermann et al., 2021). Recent discourse on the implications of this shift to virtual workshops tends to focus predominantly on the methods and tools, structures and scripting, technology implementation and performance.

This paper approaches virtual workshops from the perspective of expert design facilitators and focuses on their experience of designing and delivering virtual workshops. Rather than adding to the existing discourse around methods and tools, this inquiry places emphasis on the process that unfolds through practice, during virtual workshops. This practice-oriented stance views design as a “situated, local accomplishment” (Kimbell, 2012, p. 141), where the roles and outcomes of the methods used cannot be separated from the situation in which they are applied, or from the practitioners applying them (Light & Akama, 2012, p. 69). In this sense, practice is influenced by and responds to “intermingling, performative flows” of continuously unfolding processes (Rylander Eklund & Simpson, 2020, p. 12).

2. Research design

This study is led by the question: what new understandings about participatory, co-creative design practice are revealed through facilitators’ experience of delivering virtual workshops?

The inquiry takes the form of a single case study of an innovation support workshop programme, delivered virtually to 13 different enterprises within a 12 month period. Primary data is collected through semi-structured interviews with expert facilitators involved in designing and delivering the workshop programme. For the purposes of synthesis, this data is supplemented with interview data from workshop beneficiaries, and with facilitator self- and co- reflection. Results are drawn using inductive thematic analysis of the primary dataset.

The results identify several phenomena experienced by expert design facilitators as *elements* within virtual co-creative activities. *Duality* is used as a rhetorical device to express how each of these elements can simultaneously be positive and negative; experienced as both enablers and barriers in virtual workshops, which are negotiated through practice. This paper does not aim to offer a comparative study of the differences between in-person or virtual delivery. Rather it aims to move towards deeper understandings of these elements as objects of reflection, for consideration by other participatory and co-creative practitioners, and expanded upon as a means to develop future practice.

3. Background

This paper is positioned in the context of designing, delivering, and evaluating participatory workshops that are conducted virtually, using video conferencing and digital collaboration tools. Overall, contributors report that virtual workshops are effective in respect of their objectives, and when judged according to the positive experiences of participants (Kent et al., 2020; Mennig & Tamanini, 2021; Samiei et al., 2020; Thorwid, 2020; Wilkerson et al., 2020; Zimmermann et al., 2021). Some common significant advantages of online workshops are reported:

- Inclusivity benefits of reduced overheads for participation, in terms of time, travel, and finances (Ekstrom et al., 2020; Samiei et al., 2020; Zimmermann et al., 2021), and due to the neutrality of virtual space as abstract from organisational, institutional settings (Wilkerson et al., 2020, p. 371).
- A satisfactory means to bring together geographically dispersed participants (Becerra et al., 2021; Ekstrom et al., 2020; Samiei et al., 2020; Yearworth & White, 2021; Zimmermann et al., 2021).
- Significant potential for reducing the carbon footprint of such activities (Ekstrom et al., 2020; Mennig & Tamanini, 2021; Rissman & Jacobs, 2020; Wilkerson et al., 2020; Yearworth & White, 2021; Zimmermann et al., 2021).

However, in contrast to the above, Mennig & Tamanini (2021, p. 138) identify that virtual workshops present some significant challenges to inclusivity that do not tend to affect in-person delivery modes. These barriers to participation are generally reported in terms of lack of familiarity, confidence or skills in using online platforms and digital tools. These conflicting statements are an expression of the rhetorical duality present in many phenomena experienced in virtual workshops, where each can vary between an enabler and a barrier, to various actors, at various moments.

Structure emerges as a dominant variable associated with phenomena in virtual workshops. Of those reported, several are significantly structured, be it by 'scripts' in the discipline of system dynamics (Wilkerson et al., 2020; Yearworth & White, 2021; Zimmermann et al., 2021), or using a prescribed 'Design Sprint' processes (Thorwid, 2020) or design thinking models (Yarmand et al., 2021). Kent et al., (2020, p. 661) identify that in virtual workshops, facilitators lose the flexibility they would have in-person to "roam the room" and fluidly move between group dialogues. Designing workshop facilitation around more structured roles is proposed as a means to compensate for this perceived limitation (Kent et al., 2020, p. 661). Similarly, in the context of virtual conferences Samiei et al. (2020, p. 7) recommend well-structured roles for volunteers based on specific tasks. On the other hand, Thorwid (2020, p. 18) positions well formalised workshop structure as an enabler in the virtual setting, fundamentally making such workshops possible. However, in this instance the workshops follow the prescriptive routine of design sprints and the perceived benefits of structural rigidity mainly revolve around higher efficiency in terms of time and staff resources

(Thorwid, 2020, p. 57), rather than a broader understanding of value within co-creative activities.

Mennig & Tamanini (2021, p. 136) observe that group dialogue becomes more awkward in virtual workshops, with people interrupting each other unintentionally. By imposing more structure on open discussion, Zimmermann et al. (2021, p. 5) suggest that facilitators can take advantage of software features (such as the raised-hand function) to moderate between organic debate and ensuring that all participants are able to contribute. Conversely, the increased structure of virtual discussion is suggested to be detrimental to the social and networking aspects of workshops, where interactions are “planned, timed, and infrequent” rather than organic (Becerra et al., 2021, p. 38). Yarmand et al. (2021, p. 4) recommend that workshop structures maintain a level of in-built flexibility; this responds mainly to the issue of overcoming technical obstacles by allowing more time.

Digital tools and technology feature strongly in recommendations, gravitating towards a combination of video conferencing applications and digital whiteboard tools. Applications supporting basic audio-visual interaction and chat functions are sufficient to host workshops, whilst digital whiteboard features allow effective collaboration (Zimmermann et al., 2021, p. 10). Simplicity is promoted as a key enabler (Ekstrom et al., 2020, p. 382) and organisers should focus on how easy-to-use and accessible the applications are for participants (Samiei et al., 2020, p. 4). Unless time is built-in to the workshop programme for necessary training, prioritisation should be towards simplicity and familiarity, rather than sophisticated features (Yarmand et al., 2021, p. 4). This is particularly important due to varying levels of digital literacy across participant groups (Zimmermann et al., 2021, p. 11). Technology can compensate to some extent for the loss of interaction between facilitators, that would otherwise be straight-forward during in-person workshops, by supporting external communication channels for organisers and facilitators (Samiei et al., 2020, p. 8; Yarmand et al., 2021, p. 4; Zimmermann et al., 2021, p. 11). Again, this should be implemented with simplicity in mind, so that team members do not need to check multiple applications or devices, and rather have all channels of communication on one platform (Yarmand et al., 2021, p. 4). Zimmermann et al. (2021, p. 69) also highlight the usefulness of breaks for facilitator communication.

The literature recognises that virtual workshops are more intense, with concerns about fatigue and increased cognitive load (Becerra et al., 2021, p. 37) and discomfort caused by sitting in front of a screen for long periods (Mennig & Tamanini, 2021, p. 137). In response, frequent breaks are strongly recommended (Wilkerson et al., 2020, p. 369), and - unlike in-person workshops - breaks should not be filled with activities, but used as time away from the screen (Mennig & Tamanini, 2021, p. 137). The impact of intensity on participation is an apparent theme, drawing attention to preparedness of the participants as an important variable (Ekstrom et al., 2020; Mennig & Tamanini, 2021). Perceived challenges include identifying activities to maintain participant engagement (Becerra et al., 2021, p. 38), participant disengagement due to distractions present with digital technology, such as email (Mennig & Tamanini, 2021, p. 136). The increased formality of online dialogue is also recognised as a

cause of discomfort, where participants may be hesitant or concerned about talking over one-another (Wilkerson et al., 2020, p. 369). The importance of building good rapport (Lampitt Adey et al., 2019, p. 7) is highlighted by Wilkerson et al. (2020, p. 369) during the early stages of workshops to foster active participation, however suggestions for how to achieve this are not presented. Interestingly, it is speculated the pandemic provided a shared and uniting experience that meant workshops were a welcome opportunity for interaction (Kent et al., 2020, p. 661), this is somewhat supported by the recommendation that rapport in virtual workshops can be enhanced by shared/common experiences (Mennig & Tamanini, 2021, p. 137).

The literature reviewed reports on perceived problems, issues and challenges during virtual workshops, as well as advantages and benefits experienced. The prevailing focus is on the identification of phenomena as strengths, weaknesses, opportunities and limitations oriented towards the methods and tools used to conduct virtual workshops. However, many phenomena in virtual workshops are inherently complex and relational, such as the simultaneously positive and negative impacts of digital technology on inclusivity. To work towards a deeper understanding of practice in virtual workshops, it is necessary to take a practice-oriented stance that recognises the unfolding nature of practicing in co-creative activities that are a “messy, contingent combination of minds, things, bodies, structures, processes, and agencies” (Kimbell, 2012, p. 141). More broadly, through a systematic review of participatory and co-creative design literature, Mosely et al. (2021) demonstrate that *design facilitation practice* itself is poorly defined and diffusely represented both within and outside the discipline. The role of the design facilitator is complicated further, as in co-creative activities designers act as both facilitators and participants (Aguirre et al., 2017, p. 199). Contributing directly to a definition of this type of practice is outside the main focus of this inquiry, although this matter is a constituent of the wider landscape within which this paper is situated.

4. Methodology

The inquiry is a focused (co-)reflection on the experience of delivering a workshop series as part of Creative Fuse North East 2.0 project (CFNE2), a major research project involving a consortium of 5 UK Universities and funded by the European Economic Regional Development fund (ERDF) and the UK Arts and Humanities Research Council (AHRC). A single case study (Yin, 2018) structure has been adopted in order to give form and focus to the inquiry, and as an appropriate way to develop a detailed and accurate understanding of a phenomenon, its context, process, influences and implications (Flyvbjerg, 2013).

Primary data:

- Unit of analysis: Get Ready to Innovate (GRTI) (Gribbin et al., 2018, p. 7) workshop programme that was initially designed and conducted in-person, now adapted for virtual delivery. This inquiry draws from the delivery of 13 workshop series, comprising 52 individual workshop sessions.

- Units of data-collection: facilitators who are responsible for the delivery of the virtual GRTI workshop programme. The sample group comprises 5 facilitators, 4 of which have previous experience of conducting GRTI workshops in-person. (To mitigate against bias, the 2 members of the facilitation team leading on this paper were omitted from the sample group).
- Primary data collection method: 2 semi-structured co-reflective group interviews, each of 1.5 hours duration. Interview 1 involved lead facilitators, interview 2 involved co-facilitators. Data sources comprise audio recordings and transcripts.
- Analytical procedure: the General Inductive Approach to qualitative data analysis (Thomas, 2006), using evaluation criteria relating to how facilitators experience delivering GRTI in the virtual setting.

Supplementary data:

- Digital whiteboards populated during GRTI workshops, including semi-structured sign off interviews conducted with beneficiaries. This data provides a supporting role, offering insight into the experience of the participant, and allowing an additional dimension from which to synthesise understanding.
- Practitioner self- and co- reflection by lead and second authors on their role as design facilitators in virtual workshops. This data was recorded alongside workshop delivery as post-session facilitator ‘unpacking’, and in a separate digital whiteboard dedicated to reflecting on this form of practice.

DATA COLLECTION POINTS

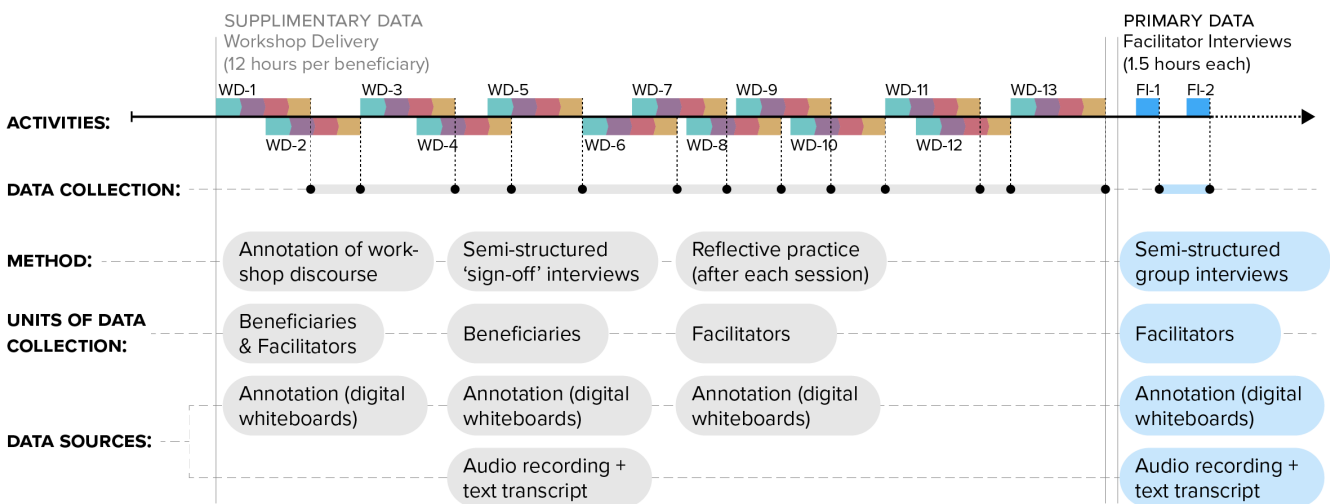


Figure 1. Indicative chronology of data collection points – the sequence of activities from which data was collected, the type of activity, the method of data collection, the units from whom the data originated, and the data sources.

4.1. Methodological bias

The potential for methodological bias introduced by facilitators reflecting on their own practice is acknowledged. This was mitigated against through the research design. The following measures were implemented for the collection of primary data:

- Two members of the facilitation team (lead author and second author) led the data collection process and did not contribute to interview responses.
- The rest of the design facilitation team were not involved in designing the structure of the interviews, or in creating the interview questions.
- A member of the project administrative team, not involved in workshop delivery, was present as a third interviewer to introduce an outside perspective when asking interviewees to elaborate on their answers.
- Interviewees were not involved in analysing the raw data set from their interviews.
- The two interviewers inductively coded the raw text data independently, following the same evaluation objectives.
- Themes were agreed through critical discussion between the two interviewers, comparing their independently determined categories.

4.2. The case: Get Ready to Innovate

The Get Ready to Innovate (GRTI) programme is fully funded by the ERDF and is defined as a participatory, co-creative and *design-led* (Bailey et al., 2019) workshop series.

WORKSHOP STRUCTURE: GET READY TO INNOVATE

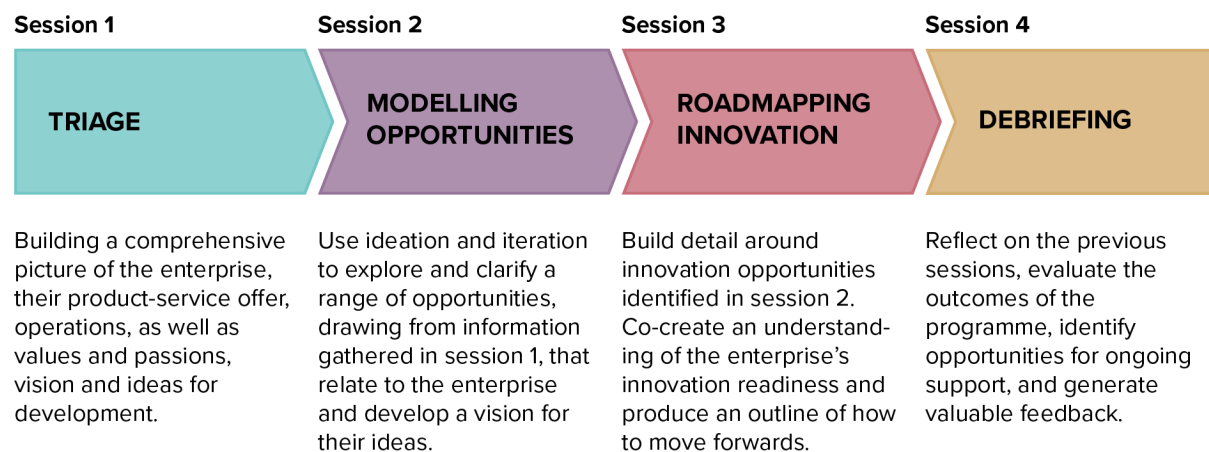


Figure 2. Get Ready to Innovate workshop structure – 4 collaborative sessions, each lasting 3 hours, and typically scheduled over a four week period.

GRTI represents *workshops as a means* (Ørngreen & Levinsen, 2017, p. 72), in this case the workshop arrangement is based on focused collaboration between beneficiary and facilitators, determining the beneficiary's innovation readiness through a guided reflective approach that aims to create a roadmap towards actionable strategy (Gribbin et al., 2018, p. 8).

Beneficiaries of GRTI workshops are sole-traders or individuals from SME scale commercial and social enterprises, either based in the North East region of the UK (CFNE2), or Birmingham, Alabama as part of the EGK Starters programme (egkstarters.com), which was not ERDF funded.

4.3. Actors in the virtual workshops

Actors within the virtual workshops consist of beneficiaries and design facilitators. The term beneficiary is used in preference of the often used 'participant'. As recognised by Aguirre et al. (2017, p. 199) designers tend to act as both facilitators and participants in co-creative activities. In this case all actors in the workshop are *participating* toward a shared goal (defined by the beneficiary), working together to create new understanding about the enterprise's readiness to innovate. The virtual workshops that form the object of reflection had one or two people from the beneficiary enterprise, and normally three facilitators. The beneficiary roles comprise business owners or executives. They are not known to the facilitators before enrolling for the workshop programme. Facilitators in this case are part of a mature community of co-creative design practice, who work together on the CFNE2 project. Their roles are generally:

- One lead facilitator (LF): often this role was held by senior academics with extensive design innovation experience.
- Two co-facilitators (Co-F): typically comprising one senior academic and one junior researcher. The Co-F roles complement that of the lead facilitator, sharing the inquiry and also operating digital tools, documenting and mapping the session using a digital whiteboard.

5. Analysis

The analytical procedure used to interpret the dataset follows the *General Inductive Approach* (Thomas, 2006) to thematic analysis of qualitative data. In brief, this approach involves several iterations of close-reading of interview transcripts to code and categorise text segments, and subsequently derive themes. Evaluation objectives are defined to determine what is relevant to the analysis, which in this case are text segments relating to the facilitators' experience of designing and delivering virtual workshops. The two interviewers first analysed the data individually, and then came together to discuss their categorisations and reach mutual agreement about themes (table 1).

Table 1. Categories identified through inductive thematic analysis, in relation to their respective themes and example text segments from interviewees.

	Categories	Example Segments
Structure	<p>Qualitatively different – less fluid, more intense. More structured process – scheduling and sequencing of activities/tools. Concern – limiting practitioner flexibility, adaptation Increased clarity of discussion (conversations more structured). Finding the balance, right amount of structure.</p>	<p><i>I think it's brought greater structure and potentially a bit more discipline [...] and is possibly a little bit more formal.</i> FI-1/E <i>I think there are dangers with any templated device where it becomes clinical, where it actually doesn't matter who the facilitator is [...] like a diagnostic tool, it is about the tool and its ability to diagnose [...] whereas it's about how we maintain a high quality, collaborative, reflective practice.</i> FI-1/F</p>
Ambiguity	<p>Ambiguity making space for creativity and open ideation. Ambiguity as an enabler – dynamic working, facilitator flexibility. Risk of dis-engagement by beneficiary – ambiguity level is too high. Lack of ambiguity introduces risk of fixation.</p>	<p><i>How ready, how prepared, how able is the individual to cope with that ambiguity and disruption [...] if they don't cope well with that. That has a direct influence on actually how ambitious that reframing can be.</i> FI-1/E</p>
Preparedness	<p>Over-preparation as a negative (risk of fixation, preconception). Preparedness as a source of confidence for Co-Fs. Degrees of beneficiary preparedness – digital technology (proficiency, quality of connectivity). Degrees of beneficiary preparedness – ambiguity.</p>	<p><i>If you know pretty much nothing at the beginning, and you're working with it in a completely dynamic way [...] you bring very few preconceptions to that situation so that does mean you can pursue lots and lots and lots of alternative lines of inquiry.</i> FI-1/E</p>
Intensity	<p>Virtual workshops perceived as highly time-efficient. Virtual interaction felt to be more fatiguing. Sense of being 'always on' for facilitators. Intensity as positive – an energising influence. Need for facilitator attentiveness to fatigue (beneficiaries and other facilitators). Lack of non-verbal cues/body language (increased focus on verbal communication). Effect of changed space for interaction – confined to screen area, limited movement, fewer material qualities.</p>	<p><i>I think also there's something around efficiency [...] about how I might deliver something of value in this space as efficient as possible.</i> FI-1/F <i>[I]t's almost like an actor trying to get into person, it's the same, like the workshop is my stage, and I've got to kind of get ready, it's intense, like three hours is tiring, and you've got to give all your energy [...] online.</i> FI-2/C</p>

<p>Confidence</p>	<p>Good team chemistry as a source of confidence. Familiarity with the programme and approach. Sense of advanced competency within the team. Perceived credibility, competency of facilitators as enabler for beneficiaries. More 'visible' structure increases sense of programme credibility. Co-F confidence increased by clearer definition of roles Proficiency with digital technology as a source of confidence. Composition of facilitator team linked to beneficiary confidence.</p>	<p><i>I think something that really made it less daunting is that as [C] said, in the previous part, we've already worked together a lot. And I think having that chemistry going in and knowing certain people's strengths really helped. FI-2/A</i> <i>We have a template, it's a helpful device for it does, I think, it gives participants confidence that we know what we're doing. FI-1/E</i> <i>[O]ne of the enabling factors and what made the online delivery great is us [...] the fact that we had that extensive experience and ran the programmes so many times through so many different iterations before. We had the confidence to do it online. FI-2/C</i></p>
<p>Trust & Rapport</p>	<p>Concern – fostering energising atmosphere, creative energy. Concern – ability to build good working relationships in virtual delivery. Virtual space as a 'leveller' – removing some formality, sense of shared challenges in adapting. Empathy moments – technology issues, unpredictable occurrences. Intuition in virtual delivery – feeling trust and rapport developing. Limitation – loss of resolution in non-verbal cues, lacking non-verbal feedback.</p>	<p><i>For me the biggest one was how we would recreate that kind of atmosphere, [...] you know, creative energy and, like as facilitator, how we build a relationship and trust and rapport. FI-2/C</i> <i>The thing that was lost was the capacity to build real social capital amongst the participants. FI-1/E</i> <i>[Y]ou can feel when trust is established where people feel comfortable to have a joke or to poke fun or to start to kind of think creatively with you. FI-1/F</i> <i>I think just like anything in a digital format, we've all got cameras, but you can't pick up on nonverbal cues quite as well. FI-2/B</i></p>
<p>Roles & Team Dynamics</p>	<p>Facilitator roles more rigidly defined. Familiarity, understanding each members strengths, team chemistry. Division of roles - attending to interaction vs. attending to digital tools. Importance of CoF role as technology enabler (source of confidence). Multiple facilitators as mitigation against intensity.</p>	<p><i>[I]t wasn't to say that people that were note-takers can't ask questions or and vice versa, but they were definitely more inclined to either note-take or steer the conversation. FI-2/A</i> <i>[C]onfidence in our co-facilitators and their ability to draw and write at speed, and to pick out the best person was really important because I didn't want to have to think about drawing and writing. FI-1/E</i> <i>I definitely feel more confident in my digital skills and synthesising information [...] because I'm more comfortable in that I don't push myself to engage in the facilitation as much. FI-2/B</i></p>

Technology	<p>Digital technology creating different space within which to practice.</p> <p>Important for technology to be unobtrusive / not detracting from practice.</p> <p>Limitation – fluidity and 'naturalness' of interaction</p> <p>Unpredictability during sessions increased by technology.</p> <p>More defined roles necessary, supporting different aspects of virtual delivery.</p> <p>Increased clarity of recorded content.</p> <p>Technology enabling new aspects of practice (behind the scenes activity).</p> <p>Quality of digital tools as significant factor.</p>	<p><i>[A]s much as possible I want to be able to forget about the tool. And purely focus on engaging, very fully with the participant and what they're saying. FI-1/F</i></p> <p><i>[M]ultiple voices contributing simultaneously. And that just does not work in in a digital environment, because when I speak, I block your ability to speak, because that's how the technology works. FI-1/E</i></p> <p><i>I find it particularly helpful when a participant has mentioned something, [...] being able just to Google and look at it whilst we're still in conversation, it's still going on, but it doesn't feel discourteous. FI-1/E</i></p>
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6. Results: Synthesis of themes

Several strong themes have emerged through analysis of the data, drawn from the facilitators' experience of designing and delivering co-creative workshops in the virtual setting. The themes describe qualitative *elements* that are present perhaps in both virtual and in-person settings. This inquiry locates these elements within the virtual setting, and data pertains to how facilitators perceive the effect of these elements on the dynamics of this setting. Inherent in all the elements is the rhetorical duality, where these elements may simultaneously help and hinder virtual workshop delivery. Each element is presented below, where these are not discrete and separate, but interrelated and 'woven' into the virtual setting. Descriptions include synthesis of the themes, to highlight qualitative nuances and articulate the interrelated nature of the elements (figure 3).

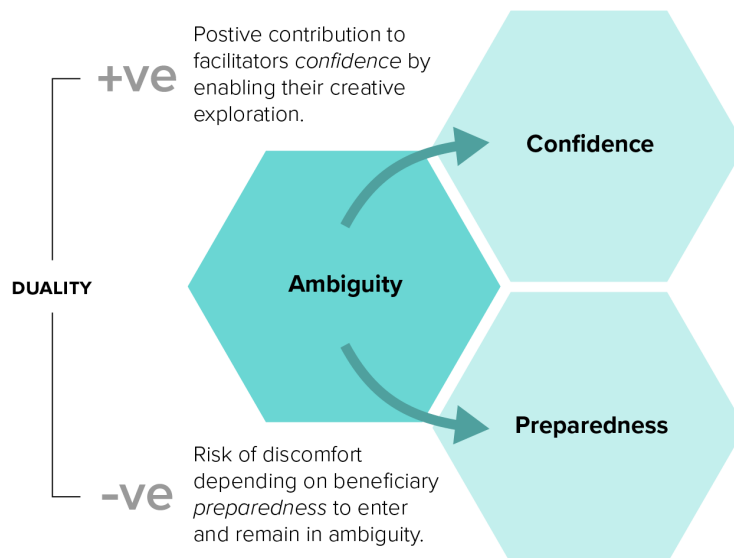


Figure 3. An apparent duality of ambiguity is that it can contribute to facilitators' confidence by enabling their creative exploration, but it also introduces the risk of discomfort depending on beneficiary preparedness to enter and remain in a state of ambiguity.

6.1. Structure

In-person or virtual workshops may be explicitly designed to be more rigidly or more loosely structured. This can apply to many aspects, such as: roles played by each actor; interactions and discourse; recording and documentation; scheduling; the design and application of methods and tools etc. However, structure emerged as a strong element and was perceived both in terms of influences and conditions of the virtual setting. For example, an implicit structure is introduced as a consequence of the technology platforms used to stage the workshop; people tend not to interrupt each other, discussion tends to focus all actors on one thread at a time, and conversations become more sequenced. This phenomenon was not designed for, but rather appeared as a consequence of other elements in the virtual setting.

Increased rigidity of structure is perceived to be beneficial when it engenders confidence. This was reported by Co-Fs in positively influencing how well-prepared they felt for the virtual workshops, and in making it easier to use digital tools to annotate and map the session, in-turn improving the quality of the documentation captured. Beneficiaries indicated that the apparent structure gave a sense of time-effectiveness, but also built confidence in the process. Conversely, a loose structure is essential in allowing experienced facilitators to be flexible and adaptive in how they moderate the inquiry. It allowed LFs to respond to how comfortable the beneficiary appeared to be in the virtual setting (adding extra breaks, allowing extra time for familiarisation with the technology).

6.2. Ambiguity

Lead facilitators discussed the benefits of maintaining ambiguity in both in-person and virtual workshops, allowing space for ideation, free-form exploration, and creation of new frames through which to view the situation. They felt that being over-prepared risked introducing pre-conceptions that they would later have to break out of, and favoured ambiguity as an enabler for “bringing freshness” and working dynamically. In contrast, facilitators recognise that for the participant, ambiguity can cause uncertainty, confusion and can be uncomfortable. This was a source of concern, particularly as it is hard to sense how prepared beneficiaries are to enter a state of ambiguity, and for how long they are prepared to remain in that state. Facilitators described how reduced non-verbal cues in the virtual setting amplified this concern, where this discomfort may lead to risk of the participant disengaging.

6.3. Preparedness

Analysis suggested that between structure and ambiguity, there are varying degrees of preparedness for both beneficiaries and facilitators. For facilitators, this element is directly related to the adaptation of the workshops for virtual delivery. For beneficiaries, it is perceived to be related to how expectations about the workshop programme were managed during recruitment. Co-Fs identified preparedness as an enabler in the virtual setting. From their

perspective, attention to the following was significantly important in respect of virtual workshops: familiarity with the programme; carefully adapted digital versions of templates, tools and prompts; competency in operating the technology.

Where the workshops comprise one or two beneficiaries, there was concern about how prepared beneficiaries are to tolerate the ambiguity and uncertainty that is inherent in designed inquiry. LFs perceived that participant preparedness is likely to have a direct influence on this tolerance, and therefore how ambitious the creation of new frames can be. However, LFs felt that quite the opposite applied in their own practice, where preparation could result in fixation and create preconceptions whereas carefully balanced 'unpreparedness' was felt to bring "freshness" and help LFs to work in a "completely dynamic way".

6.4. Intensity

The intensity of workshops is perceived to be affected by the virtual setting. Beneficiaries reported that intensity makes the workshops feel highly productive, focused and dedicated. The majority felt the workshops used their time "efficiently". Some negative implications were reported by facilitators, who felt that they are "always on" during virtual workshops. During virtual workshops facilitators often relied on sensing when a break was required, rather than sticking to a rigid schedule. This sensitivity was not only towards the beneficiaries but other facilitators also. To compensate for there being fewer "materials of the situation" in the virtual setting than in-person, facilitators feel they have to work harder to ensure they can maintain a high quality of collaborative reflective practice. LFs described how in the virtual setting, the screen becomes the entire stage for interaction, which is small, two dimensional and rigidly constrained. Whereas in-person, the stage would be a physical, material and three dimensional setting that forms a much richer, 'natural' environment, supporting movement, non-verbal communication, a full spectrum of senses, and so on.

6.5. Confidence

For all actors, confidence emerges as a particularly dynamic and relational element in the virtual workshop setting. Interestingly, some aspects of the conditions for confidence between LFs and Co-Fs were quite polarised. Overall, all facilitators referred to their experience, expertise, familiarity with the workshop approach, and team "chemistry" in giving them confidence. However, enablers for confidence in LFs were related to a looser structure allowing adaptability and flexibility, and having sufficient ambiguity to work dynamically, without preconceptions. For junior Co-Fs, increased structure was a source of confidence, particularly in terms of having more defined roles within the workshop. Technology was a source of concern for LFs but they drew confidence from knowing they could defer to the skills of Co-Fs in operating the digital tools, so they could focus on the verbal aspects of the workshop. Similarly, this dynamic created confidence for Co-Fs, who clearly recognised the value of their skills in the virtual setting. A source of confidence for workshop beneficiaries was their perception of the workshop structure. Beneficiaries were reassured by the digital

whiteboard templates and felt they were being guided through a well-structured journey. Trust was also a strong source of confidence for beneficiaries, as described below.

6.6. Trust and rapport

During the design phase of the virtual workshops, facilitators felt some concern about how the virtual setting may negatively impact the building of trust and rapport with beneficiaries. However, beneficiaries reported favourably in relation to trust, feeling that the workshops offered a platform to be vulnerable and honest, where facilitators show empathy, take a neutral stance, and have “no vested interests”.

The duality stems from how technology and digital tools in the virtual setting simultaneously enable the workshops to take place, but are perceived by facilitators to impose constraints on softer inter-personal skills that may be more fluidly practiced in-person. There was uncertainty around the more explicit structure of virtual workshops, along with the increased formality that video conferencing platforms can impose on dialogue, as diminishing opportunities for incidental or tangential conversations, and ‘small talk’. Such incidental or sometimes ‘off topic’ conversations are felt to be instrumental in how facilitators can be personable and positively relate to beneficiaries. Conversely, there are times when friction caused by technology provided an opportunity for facilitators and beneficiaries to share empathy, and was felt to help build rapport.

6.7. Roles & team dynamics

One facilitator suggested that “what makes it successful is us”, LFs and Co-Fs share a convivial, positive working relationship outside of workshops. They are familiar to each other and form a community of practice within the School of Design. This level of understanding, maturity and team ‘chemistry’ was perceived to allow facilitators to be adaptive to each other's style and strengths, to work productively together. In adapting to the virtual setting, facilitator roles have become more rigidly defined. Co-Fs see this as positive, suggesting that this gives them more confidence by focusing their responsibilities towards their strongest skills. The down-side is that these rigidly defined roles have almost entirely over-ridden the benefits that more *novice facilitators* had created during in-person delivery of the same workshop programme (Lampitt Adey et al., 2019, p. 6). Also of concern, rigid roles provide little impetus for less experienced Co-Fs to step out of their comfort zones, thus perhaps impeding opportunities for professional growth.

6.8. Technology

Devices, software, digital tools and the internet fundamentally enable virtual workshops. Aside from being the very platform upon which the workshops could take place, other benefits were highlighted. Technology was perceived to avoid the formality associated with attending an event in an institutional environment. Instead, actors can attend remotely from the familiar and comfortable surroundings of their home or office. Also, behind-the-scenes searching the internet, viewing web pages, taking screenshots, and information gathering

was felt to be acceptable in terms of etiquette in the virtual setting, and can be done without removing oneself from the conversation. The same was not seen to be as feasible or as appropriate in-person.

Facilitators perceived that conversations happen differently in virtual workshops, where technology imposes an implicit structure: people are “more polite”, and tend not to talk over each other. This makes it easier for Co-Fs to document and map the sessions. It was also seen to force the focus of discussion onto one thread at a time, which was felt by LFs to make discourse less dynamic and more intense. Beyond the core function of mapping the sessions, the digital whiteboard tool offered continuity between sessions for facilitators and beneficiaries, allowing actors to revisit the discussion at any time. However, the majority of beneficiaries chose not to interact with the digital whiteboard during the sessions.

Poor connectivity, struggling to share a screen, interruption by background noise, or forgetting to un-mute the microphone, were encountered as negative implications of technology. But, in polarity, these instances of friction also permitted empathy between actors, and even shared humorous moments, and were perceived to enable relationship-building. A concern was that technology gives people more opportunity to disengage, to turn the camera off or stay muted. In practice, this was rarely encountered, although it was occasionally apparent that beneficiaries were distracted by technology, such as emails and notifications.

7. Findings: Propositional model, three degrees of influence

The elements that have emerged as themes are those which are perceptible to expert design facilitators, while engaging in focused co-reflection on their experiences delivering virtual co-creative workshops. By articulating these elements through reflective practice, they are made explicit and thus become objects of reflection, from which to build new understanding and stimulate further development of practice related to virtual co-creative activities. This paper suggests that practitioners reflect on two main aspects of practice when working in virtual settings:

- Preparing for the more predictable elements that are within the influence of designing and facilitating.
- Becoming sensitised to those elements that are beyond direct influence and instead need to be sensed and responded to in practice.

As a propositional model for organising these elements as objects of reflection, three degrees of influence are speculatively proposed for further consideration: *stage*, *setting*, *environment* (figure 4).

Stage - the aspects of the situation that practitioners are able to control directly in order to deliberately influence those elements that are more predictable. A stronger comprehension of such elements ensures they can be attended to deliberately through improvement and expansion of methods, tools, techniques, and routines.

Setting - where elements are configured according to the particularities of digitally mediated virtual space, which in-turn shapes practice within this context. Focused reflection-on-action can draw out elements that are perceptible, their relational intertwining, and how they are influenced by the *stage*, so that they can adroitly be attended to.

Environment - the overall situation for participatory and co-creative design practice that is complex and emerging. Where elements are unpredictable contingent phenomena in performative flows involving all actors, and that are dynamically negotiated *in-the-moment* during practice.

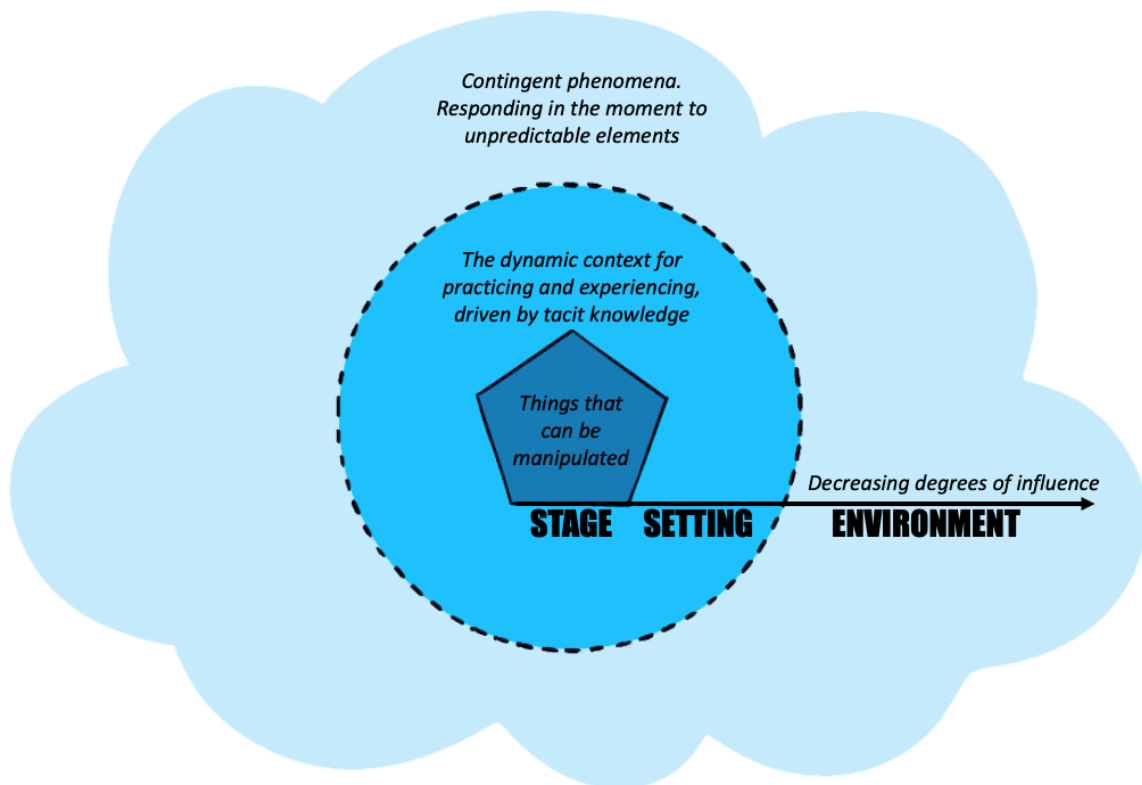


Figure 4. Three degrees of influence that practitioners are found to have on virtual collaborative activities, proposed as a conceptual tool for reflection.

8. Discussion

The elements presented above are not suggested to be discreet, nor existing as separate entities and addressed as such. Rather they are considered to be an intertwined complex of influences, where duality refers to how each element may have both positive and negative effects on the dynamics of virtual workshops. Whilst these elements very likely do exist in physical in-person workshops, this paper is interested in how their effects manifest in the dynamics of virtual workshops.

Of the recent contributions reviewed above, much of the discourse relates to how practitioners set the *stage* for virtual workshops. For example, the structure element is suggested

to enable virtual workshops (Thorwid, 2020, p. 18), and to compensate for how technology element can negatively influence the setting (Kent et al., 2020, p. 661), constraining interaction to within the bounds of a screen. Here, structure is an explicitly planned component of preparing the *stage*, but structure can also emerge through the workshop *setting* as a consequence of how the technology element implicitly shapes interaction between actors. With experience, this phenomenon can be predicted and addressed deliberately in preparing the *stage*, such as using software features to positively influence how open discussion is facilitated (Zimmermann et al., 2021, p. 5). But the expertise of the facilitator remains crucial in moderating a balance between lively debate and ensuring all voices can be heard, where facilitators are responding to the complex dynamics of the *setting*.

The *stage* comprises things that facilitators can directly manipulate to deliberately influence certain elements in the workshop. There is similarity to the concept of *frontstage* and *backstage* (Bødker et al., 2017; Hayes et al., 2021), the former referring to what happens within a participatory activity, and the latter about work before, between and after such activities. However, this terminology has an established meaning in respect of participatory design infrastructuring that goes beyond the intention of the reflective tool proposed. *Stage* is chosen as a more general term to encompass that which can be predicted and prepared for. The *setting* is how the stage and the *environment* combine to create a dynamic flow of influences within the workshop. The technology element is significantly influential as the medium for virtual interaction and thus shapes the *setting*. Hence this is ephemeral, influenced by the particularities of the situation, actors, predictable and unpredictable elements. The *environment* surrounds everything as a mass of unpredictable elements that are expressions of intertwined, performative flows that are continuously emerging (Rylander Eklund & Simpson, 2020, p. 12). The *environment* is where there is the least degree of influence and the most unpredictability, its effects are felt in how facilitators may be confronted by new or unexpected phenomena during collaborative activities.

A meta-educational perspective has been recommended as a way to develop research into – and “enable iterative meta-learning” on – virtual collaboration (Mennig & Tamanini, 2021, p. 138). However, this inquiry proposes that such iterative development be approached from a practice-orientation that shifts the focus of inquiry from specific roles, methods, tools, and routines and towards a more nuanced and qualitative understanding of what is happening *during* such collaborative activities. The framing of *setting* is a ground for practice as a “set of contingent, embodied routines” (Kimbell, 2012, p. 141), where facilitators are supported by those aspects that can be prepared, rehearsed, and predicted. Conversely, the *environment* of unpredictable and difficult to influence elements must be negotiated through practice, and offers a rich ground for articulating tacit and embodied knowledge, made discursive through focused reflection-on-action.

9. Concluding remarks

Design facilitation experts have reflected on the experience of designing, implementing and delivering co-creative workshops in the virtual setting. They have identified several influential elements, interpreted as dynamic and interrelated influences which are 'woven' into the virtual setting. This paper positions these elements as objects for critical reflection within a conceptual model of three expanding degrees of influence; *stage*, *setting*, *environment*.

The position taken here is that experienced facilitators rely on *knowing-in-action* (Schön, 1983) during practice, where this involves thinking, sensing, acting, relating (Strauss & Pais, 2014, p. 24) and negotiating continuously unfolding performative flows. Preparing the *stage* involves designing tangible and intangible structure, through artefacts, prompts and routines that are scaffolding to work flexibly around, rather than an attempt to mitigate against the unpredictable, or impose control. The *setting* forms the context of virtual collaboration and is necessarily shaped by the influence of technology, but also by components of the *stage* and by unpredictable elements in the *environment*.

As participatory and co-creative practice continues to be enacted in virtual settings, and also integrated into hybrid modes of delivery, focused reflection to articulate tacit knowledge is essential to the development of practice in this area. Particularly in respect of how rapidly new and more powerful digital collaboration tools and technologies are becoming available. It is important for practitioners of participatory and co-creative design to enter into a reflective dialogue with the experiences of working across digital collaboration tools and technologies, to articulate tacit and embodied knowledge and develop new understandings for the future of practice in virtual settings.

Negotiation of such complex elements, found to have simultaneously positive and negative influences on virtual workshops, through a situated and performative process, is suggestive of a certain *chemistry* apparent in practice. Further inquiry is encouraged in order to understand how this chemistry is created; how can the balance of duality in each element be tipped in favour of positivity, to ensure that virtual activities are successful; how can practitioners detect and monitor this chemistry, and; to what extent is embodied knowledge dis-embodied by technology, or embodied differently within the virtual setting?

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