



Manufacturing Creative Impact: Co-creation Toolkits and Service Design for Remote Hybrid Collaboration Experience

Sheng-Hung Lee*, Ziyuan Zhu*, Simone Mora, Joseph F. Coughlin
Massachusetts Institute of Technology, Cambridge, USA

*Corresponding Author: Sheng-Hung Lee (shdesign@mit.edu) and Ziyuan Zhu (zyzhu@mit.edu)

ORCID ID: <https://orcid.org/0000-0001-8480-5823>

ABSTRACT: Due to COVID-19, many people turned their homes into temporary working or learning spaces. The format and experience of remote working and study have changed dramatically, especially for collaborative works. For remote collaboration, between the level of platform and tool, there is still a missing layer of product that can connect hybrid co-creation experience virtually and physically. Therefore, the purpose of the study is to assist and amplify the remote co-creation experience that bridges learning and collaboration between the tangible world and digital meetings by experimenting with designing the material and process of a remote co-creation workshop. The outcome is the redesign of remote co-creation experience, which enhances cross-disciplinary collaboration, diversifies the format and interaction of online collaboration, facilitates meaningful and efficient communication, extends the co-creation experience from online to offline, encapsulates its service into an education and co-creation learning toolkit—MAKE TO:GATHER, in order to make a positive and meaningful social impact.

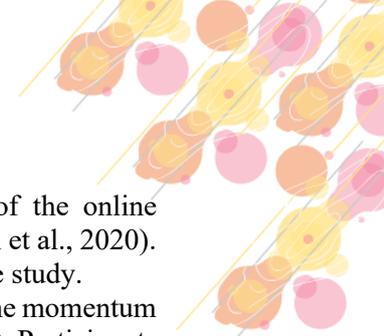
Keywords: Participatory Design, Co-design, Co-creation Toolkit, Workshop

1. INTRODUCTION

The intention of this study is to create and curate an experimental hybrid toolkit for remote co-creation experience. During the pandemic, most people needed to work from home, and thus they turned their home into a working or study place. The new changes forced people to adopt new ways of learning, interacting, and communicating (Impact by Design, 2020; Hotmart, 2019) supported by many digital services and tools (The Best Design Team Collaboration Tools, 2020). There are many relevant offerings and ideas that have sprouted in the era of COVID-19 (Stevens, 2020), among them online co-creation workshops. This study starts with a study on the experience design of a remote co-creation workshop and tries to answer the following questions: How might we create a remote, immersive, and engaging co-creation workshop for the purpose of spreading existing or socially impactful ideas (Krawietz & Hartmann, 2020)? How might we scale the traditional innovation-and-impact-oriented workshop to approach larger user groups through virtual tools (Hotmart, 2020)? To understand and answer these questions, we considered the following three points.

The Definition of Co-creation: There are multiple synonyms of the term co-creation, including co-design, participatory design and crowdsourcing. In the study, the term co-creation is defined in the context of the design or creativity field. The broader definition of a co-creation is to bring people who can be target users into the design process (IDEO, 2015). Co-creation can spark a spectrum of concepts, ideas, and inspiration directly from target users (Seve & Redondo, 2020). The intention of co-creation is to develop processes to understand, support, and design among participants and key stakeholders to form a collective outcome (Retegi et al., 2019). The term co-creation has gradually become a critical fuel for many divisions of design, especially in service and organizational innovation, since co-creation triggers comprehensive knowledge acquisition, social value penetration, and creativity unlocking (Daiberl et al., 2016).

The Implementation of Co-creation: Applying and integrating the concept of the co-creation into a workshop is viewed as a participative pedagogical approach to receive and generate feedback (Seve & Redondo, 2020). In the study, the remote online workshop is the anchor that



integrates an interactive co-creation toolkit to bridge participants' experience of the online lecturing and offline hands-on making section seamlessly and inclusively (Emerson et al., 2020). The hybrid co-creation toolkit proposed by the study is an experimental design case study.

The Challenge of Co-creation: The challenge of the co-creation workshop lies in the momentum of participants (Daiberl et al., 2016; Impact by Design, 2020; Design Council, 2015). Participants may easily get lost if workshop facilitators don't align with their goals. Hosting a successful co-creation workshop with fruitful outcomes requires reconsidering angles including educational purposes such as motivation of participants and vibe of the workshop (Retegi, Sauvage, et al., 2019; Monthan, 2020). Further research can focus on amplifying and scaling the social influence of a co-creation workshop and its toolkit through a technology-enhanced learning approach (Bayne, 2015; Marshalsey & Sclater, 2018).

2. RESEARCH—MARKET/BACKGROUND ANALYSIS

To satisfy the increasing needs for online collaboration and co-design, more and more digital tools and platforms have been created to give people better choices and greater convenience. Among tools and platforms are Miro, which enables project teams to co-create and build ideas on one synchronized online board; team workshop management tools, e.g., Session Lab (Workshop Planning Made Simple with SessionLab, n.d.), which provides users with an integrated system to organize and conduct online lectures and workshops; and Howspace, a workshop facilitator and consultancy which offers clients customized online workshops for specific purposes.

Table 1. The Online/Offline/Hybrid Co-creation Products on the Market

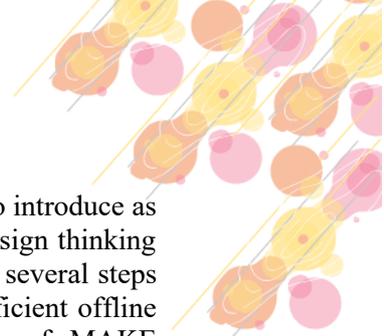
Online Co-creation Platform	Offline Co-creation Tools	Hybrid Co-creation Platform
SessionLab , Miro & co-creation Template, openIDEO, Howspace	IDEO Design Kit, DIY co-creation tools, Making Sense Toolkit	-ing Creative, Digital Confidence Toolkit, GoNano Co-creation platform

These tools and platforms all provide solutions to users who need to organize an online event or seek general online co-creation experience. Regarding the co-creation experience, offline workshops and toolkits are also booming in recent years. In addition to the widely used IDEO Design kit, (IDEO, 2015) toolkits including DIY (Keane et al., 2014) and GoNano creation tools (GoNano, n.d.) have become more and more popular among creative initiatives. These tools are designed and supplied as open-source content which aims at supporting practitioners to invent, adopt and adapt ideas for social innovation. Among these tools are our research targets, mainly the online digital tools and platforms which fit our product features.

3. CASE STUDY—MAKE TO:GATHER

MAKE TO:GATHER is an experimental toolkit and remote design experience process that empowers people who are interested in design or in solving design-related problems that require the co-creation process to work more efficiently and creatively remotely. It not only provides the workshop facilitators with a toolkit to organize a problem-solving workshop in the digital environment, but also enables people from all over the world to collaborate and work creatively in a short period of time. MAKE TO:GATHER consists of three sessions, THINK, MAKE and SHARE. Individual work and team collaboration interweave through the whole process. The team start with the THINK part to brainstorm ideas, define personas and come up with questions with given tools. After THINK, the team will jump into the MAKE, where they are asked to get the individual hands-on work done with the support of paper prototyping tools. SHARE will provide the participants with tools and guidance to tell the stories of their design and then document them in digital format, where the transformation between offline and online will be accomplished through guidance.

Systematic Process: For the digital experience part, a holistic process has been created to give participants a smooth co-creation experience. The offline part mostly focuses on the goal to create accessible tools and leverage the hands-on experience of the attendants. Regarding the process design, neither thinking about creating a whole novel platform to integrate users' experience, nor applying the design thinking process directly are parts of our workflow. We



started with doing research on existing online collaboration tools and workshops, to introduce as few new tools to people as possible. As the main source of the design process, design thinking processes enable the offline rapid prototyping and collaboration by going through several steps including empathize, define, ideate, prototype, test and access, which require sufficient offline field research and interaction between multiple stakeholders. The workflow of MAKE TO:GATHER also follows the converging and diverging process (Design Council, 2015).

Online Experience: Considering the online tools and platform for organizing the co-creation workshop experience, the decisions made on coworking online tools and platforms are of great significance. We select among existing synchronized online tools in the process of designing the online part of the workshop.

Offline Activity: To leverage the online and offline experience for participants and make it easier for people to get tangible material, the team started with the idea to create a set of physical materials which can be integrated into the online workshop process. Taking the insights and anecdotes from clients and users, the team starts by testing the prototype with the workshop's physical material from testing the prototype. With the final goal to design a physical footwear product and phone interface to solve the problem of targeted users, the team starts working on the footwear as well as interface design. The workbook (Figure 1) interconnected with a workshop process, the toolkit, on the one hand, provides the attendants pre-reading material to get an overview of the co-creation workshop, and gives an explicit structure to the online workshop on the other hand, which enables participants to do the hands-on design and experience online collaboration.



Figure 1. Co-creation Workbook (From left to right: overview of the toolkit, three sessions of the toolkit, the templates provided for taking better photos)

Prototype: After three months of preparation and discussions, the project team decided to conduct the first round of prototyping collaborating with a global co-creation platform provider to test out the co-creation workshop. The original workshop lasted for three hours. Due to the time limit, the length of the pilot test was only as long as the half of the original workshop. The project team invited three people with a non-design background to join the pilot test. During the MAKE and SHARE stages, three participants needed to make their own paper prototypes including interface and footwear separately. In the end, they combined their design works into one design story.

Refinement: The project team identified the following six points as key learnings from this pilot workshop: 1) Curate an accessible and welcoming opening of the co-creation workshop to motivate participants in the beginning. 2) Create the pre-assignment for the co-creation workshop to increase engaged participation. 3) Reemphasize an image and introduction of the target personas to build empathy. 4) Clarify the key steps and result for the team exercise section in the Zoom breakout room to guide participants in the right direction. 5) Leave decent buffer time for participants to express their ideas and concerns within the limited time constraints. 6) Control the time and flow of the co-creation workshop precisely to manage participants' attention.

4. SUMMARY

EXPERIENCE—Co-creation Workshop with Hybrid Experience: The workshop is a remote hybrid co-creation experience. The term hybrid is defined as a combination of the digital experience and in-person experience. MAKE TO:GATHER is designed to integrate online and offline learning experience seamlessly by applying a well-thought-through co-creation workshop structure, which can change from assistant learning tools to frameworks and methodologies (Figure 2).

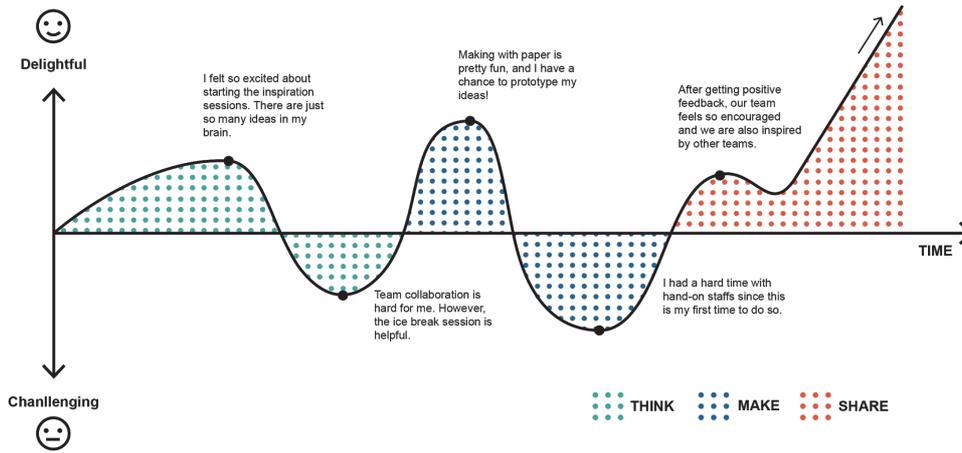
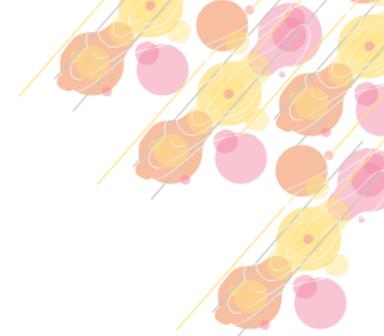


Figure 2. User Experience and Design Journey

PRODUCT—The Features of the Interactive Co-creation Toolkit: The workbook design is the highlight of the co-creation toolkit. The project team treats it as a bridge extending the standard online digital co-creation experience to an office hands-on making experience. The complete co-creation toolkit contains a slide template, workbooks, prototyping materials, a host workbook, and digital channels/software recommendations. Figure 3 presents the complete co-creation toolkit, which combines online activities such as THINK and SHARE and offline events such as MAKE. Table 2 shows the four key touchpoints of the co-creation toolkit.

Table 2. Interactive Co-creation Toolkit Design Features

Key Touchpoint	Design Features
Learning Asset (Digital/Printed Workbook)	Besides slides to present the main content, the project team also created an interactive guidance material—a workbook to assist participants' overall digital and physical experience.
Medium Converter (Documentation Template, Video QR Code)	After participants make their own paper prototypes, they can follow the instructions in the workbook to take photos and share them with the community. The workbook also provides a convenient feature QR code that allows participants to have quick access to the video tutorials of MAKE.
Interactive Section (Zoom Poll, Google Survey)	During the co-creation workshop, participants were asked to join a few Zoom polls, pre- and post- Google surveys to express their thoughts and ideas collectively as well as increase the engagement of the workshop.
Community Platform (e.g., Slack, Discord)	To extend the hybrid co-creation experience and increase opportunities to discuss participants' questions and thoughts, the project team created a Slack account to maintain connections with participants.

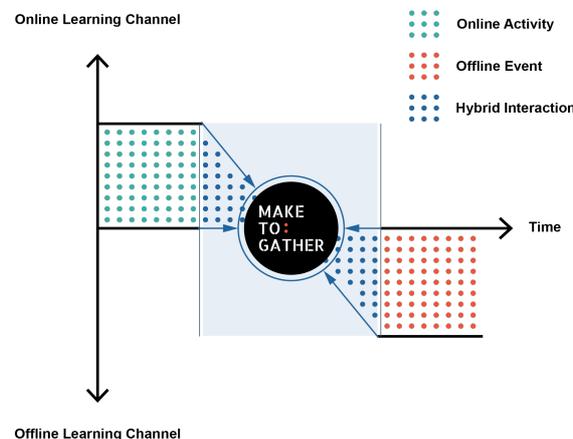
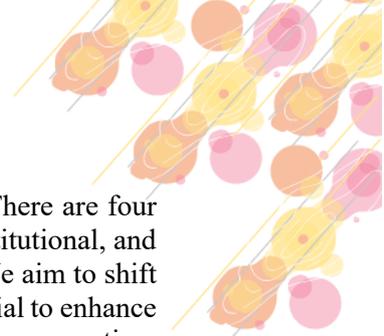


Figure 3. Apply Co-creation Toolkit—MAKE TO:GATHER in Hybrid Co-creation Journey



IMPACT—Transform the Co-creation Experience and Scale the Influence: There are four types of innovation for impact in the framework: technological, organizational, institutional, and social. The co-creation toolkit is under the category of technological innovation. We aim to shift the type of the impact from technological and organizational to institutional and social to enhance cross-disciplinary collaboration, diversify the format and interaction of hybrid co-creation, facilitate meaningful and efficient communication, extend the co-creation experience from online to offline, encapsulate the hybrid collaboration service into an education toolkit, and ultimately help spread socially impactful ideas globally.

REFERENCES

- Bayne, S. (2015). What's the matter with 'technology-enhanced learning'? *Learning, Media and Technology*, 40(1), 5–20. <https://doi.org/10.1080/17439884.2014.915851>
- Daiberl, C., Danzinger, F., Dinter, B., Hess, J., Höckmayr, B., Jonas, J. M., Kollwitz, C., Luzsa, R., Putz, M., Roth, A., Schmitt-Rüth, S., & Wehnert, P. (2016). Online-Offline Co-Creation. *Daiberl et Al.*, 2.
- Design Council. (2015, March 17). What is the framework for innovation? Design Council's evolved Double Diamond. *Design Council*. <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>
- Emerson, H., Stolzoff, S., & Romanova, K. (2020, March 13). 4 Ways to Work Together When We Can't Be Together | ideo.com. *IDEO Blog*. <https://www.ideo.com/blog/4-ways-to-work-together-when-we-cant-be-together>
- Fuge, M., Tee, K., Agogino, A., & Maton, N. (2013). *Network Analysis of Collaborative Design Networks: A Case Study of OpenIDEO*. 11.
- GoNano. (n.d.). *Toolkits for Co-creation*. GoNano. Retrieved October 12, 2020, from <http://gonano-project.eu/toolkits-for-co-creation/>
- Hotmart. (2019, July 8). Distance education tools: 4 resources to improve your online classes. *Hotmart Blog*. <https://blog.hotmart.com/en/distance-education-tools/>
- Hotmart. (2020, May 11). Online Workshop: Learn How To Run One Right Now. *Hotmart Blog*. <https://blog.hotmart.com/en/online-workshop/>
- IDEO (Ed.). (2015). *The field guide to human-centered design: Design kit* (1st. ed). IDEO.
- Impact by Design. (2020, March 19). How to set up a successful remote workshop. *Impact by Design*. <http://www.impactbydesigninc.org/set-up-a-successful-remote-workshop>
- Keane, T., Soto, M., Caffin, B., Chauhan, A., Krisnaswamy, R., Dijk, G. van, & Wadhawan, M. (2014). *DIY Development Impact & You: Practical tools to trigger & support social innovation*. Nesta.
- Krawietz, L., & Hartmann, S. (2020, April 9). The Benefits of Virtual Design Thinking Workshops. *Legal Business World*. <https://www.legalbusinessworld.com/post/2020/04/09/the-benefits-of-virtual-design-thinking-workshops>
- Marshalsey, L., & Sclater, M. (2018). Supporting students' self-directed experiences of studio learning in Communication Design: The co-creation of a participatory methods process model. *Australasian Journal of Educational Technology*, 34(6). <https://doi.org/10.14742/ajet.4498>
- Monthan, D. (2020, March 26). *How to Facilitate a Virtual Workshop*. <https://www.howspace.com/resources/how-to-facilitate-a-virtual-workshop>
- Retegi, A., Sauvage, B., Predan, B., Tomás, E., Schosswohl, G., Kaltenbrunner, M., & Draganovská, D. (2019). *The Co-Create Handbook* (Vol. 4). CO-CREATE. <http://www.cocreate.training/>
- Seve, B., & Redondo, E. D. (2020). *TEA - UPCYCLING THE RAILWAY STATION OF OAXACA: EVALUATION OF A CO-CREATION WORKSHOP*. 20.
- Stevens, E. (2020, May 7). How to Run a Remote Design Thinking Workshop. *Career Foundry*. <https://careerfoundry.com/en/blog/ux-design/how-to-run-a-remote-design-thinking-workshop/>
- The Best Design Team Collaboration Tools*. (2020). Core77. https://www.core77.com/home/channel-posts?channel_id=399
- Workshop Planning Made Simple with SessionLab*. (n.d.). SessionLab. Retrieved October 12, 2020, from <https://www.sessionlab.com/>