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# The flow of emotions in co-creation

Mariluz Soto\*, Caoimhe Isha Beaulé,  
Satu Miettinen

University of Lapland

\*msoto@ulapland.fi

**Abstract** | Co-creation is a broadly used practise among service designers, as a workshop is an effective way to build new solutions or improvements together. The focus of this article is on the emotions arising before and during the co-creation workshop and a reflection on what influences them. The first purpose of this article is to deepen the understanding of emotions that emerge in the co-creation workshops that are commonly encountered by the different participants. The second purpose is to determine if there are other factors that influence the experience of co-creation. In this article, emotions are considered a human response—consciously or unconsciously—that connects human beings with their surroundings. This connection has an impact on people’s emotions and determines their experience, attitude, behaviours and interactions in the workshop environment.

**KEYWORDS** | EMOTIONS, CO-CREATION, COMMUNITY, INTERACTION, HUMAN  
SURROUNDINGS

## 1. Introduction

Service design is a rapidly evolving field, both in research and in practice. One of its most common practices, co-creation, is also constantly evolving. According to Sanders and Stappers (2008), co-creation starts with two approaches: the first considering the user as an informant or expert of their own experience, and the second considering the user as a fundamental part of the creation process, that is, a partner. Over the years, both approaches have co-existed and matured. Indeed, a service design process is generally participative, and the methods and tools used often enhance collaboration (Sangiorgi & Prendiville, 2017). Nonetheless, human-centred approaches, prevalent both in design and in Western worldviews, have been criticised for their anthropocentricity (Acosta & Romeva, 2010), neglecting all other elements we (humans) interact with, although we are only one part of a larger ecosystem.

Surprisingly, although highly human-related, the emotional components of co-creative practices are often overlooked (Soto et al., 2020a) and even unacknowledged as essential elements to consider in these collaborative settings (Miettinen & Sarantou, 2019). Emotions have a significant impact on people's decisions, their perceptions and their relationship with their environment. The complexity of the projects could be addressed by designers, starting with the consideration of the people involved (Miettinen & Sarantou, 2019) and their ecosystems. A new way to understand emotions in the interaction between humans and non-humans environments could contribute to the development of better environments for co-creation and enhance participative experiences. Hence, this article asks the following question: What elements can influence the emotions experienced by participants in a co-creation workshop? This paper has a practical perspective that is based on the findings from data collected between 2018 and 2020 as part of a doctoral dissertation on the emotional skills of service designers in co-creation practices (Soto, 2021). First, data were collected in a Master level course in service design taught in Finland (NN:9 students). Second, data were collected during three service design sprints organised in Sweden, Finland and Estonia (NN:44), and finally, an online open-ended questionnaire was administered to service design facilitators (NN:6).

The findings presented in this article suggest that it is necessary to know and consider all the factors that can influence the emotions in a co-creation workshop. In addition, those factors go beyond the workshop; for example, everyday personal and professional situations, interactions between people and between people and their environment. This article proposes a vision of a *co-creation community* in which it is essential to increase the knowledge of emotions and their connection and interaction within the community in order to enhance the awareness of how all participants build the experience of a workshop (Soto,

2021) and the need and desire to increase connectedness with all life forms (Kahn, 1997; Keller & Wilson, 1993).

## 2. Conceptual Background

The concept of emotions goes far beyond a single definition developed by specific disciplines. Nonetheless, these perspectives can contribute in constructing a definition and common understanding and in this case can serve as a bountiful meaning for design. The psychologist Fridja (1986) describes emotions as phenomena in which behaviour, physiological response and subjective experience have an encounter. In psychology, there are different definitions related to the intensity of emotions and their combinations. This paper follows the perspective of evolutionary psychology, which distinguishes between basic or primary and complementary emotions (Desmet, 2002). Different authors use different definitions of basic emotions (Bloch, 2008; Ekman, 1971; Frijda, 1986, 1988; Izard, 2009). This study utilises Bloch's (2008) six basic emotions—joy, anger, tender love, erotic love, sadness and fear—and all the possible combinations between them. These are claimed to be universal (the same for any culture), and they manifest with moderate intensity. *Complementary emotions* are combinations of the six basic emotions. They combine two or more basic emotions with different intensities, and the outcome depends on those combinations.

In the field of design, the works of designer Pieter Desmet and engineer Donald Norman are relevant references. Desmet's (2002) approach focuses on how designers can develop new ways to create emotional connections between products and their users. Meanwhile, Norman's (2004) work is connected to the human response and its relationship with technology. Both are related to the emotions humans experience when they interact with products as well as the emotions that can be triggered in the interaction with other people about a product. According to Desmet (2002), emotions can arise from a direct or indirect relationship with a product. By connecting his work with the co-creation approach, the way in which interactions affect and influence emotions becomes much clearer.

Moreover, this paper finds inspiration in the *community-centred design* approach (Cantù, Corubolo & Simeone, 2012) as a way to conceptualise co-creation environments as creative communities and also to broadly understand a community as something in which not only humans are involved. The holistic understanding of what constitutes a 'community' in this article is connected with the ecosystem approach, whereby a community (or ecosystem) could be described as 'a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit' (Convention on Biological Diversity, 2006, Article 2. Use of terms section). In this sense, co-creative environments in service design practices can be seen as dynamic ecosystems in which the participating humans interact with and affect each other (and their emotional states) alongside a

multitude of other non-human elements, which also influence the overall process, experience and generated outcomes.

The discourse on service design has widely evolved, moving from an original focus on the discipline, such as interactions and interfaces, to investigating the deeper relation between theory and practice to better understand the complexity of the interactions, relations and experiences involved (Sangiorgi & Prendiville, 2017). Co-creation is a combination of tangible and intangible outputs (Horvath & Carpenter, 2020), where the interaction of the participants allows the merging of their perspectives, opinions and experience, contributing to a participatory practice where emotions arise spontaneously. Given that participatory design is here viewed as a collective creative practice in which facilitators and participants shape the process (Sanders & Stappers, 2008), emotions can be triggered both by the service designers facilitating the process and by the collaborating participants. Accordingly, service designers must be flexible to deal with the constant flux of situations that emerge during co-creative practices (e.g. during workshops or design sprints). This flexibility and adaptation requires specific skills to conduct the design practice since adjusting to the emotions involved can be a challenge. Social, communication and empathy skills are essential for succeeding in co-creative processes (Miettinen, Rontti & Jeminen, 2014).

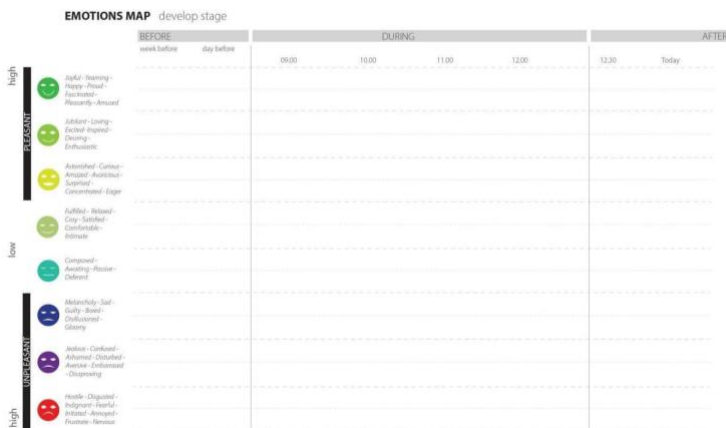
Co-creation workshops typically involve individuals who have their own personalities, professional and cultural backgrounds, personal goals and expectations and respective lives outside of the workshop setting. Therefore, the facilitators' and participants' emotions can be affected by the many co-existing factors that are present in such collective creation processes. Indeed, emotions are also driven by the personal situations and previous experiences of people, which lead to predispositions in their interactions. The visceral level is the most primitive part of the brain, and it reacts positively or negatively to environment stimuli, such as temperature, lights, colours, smells or shapes (Norman, 2004). The complexity of emotions in an interactive environment is affected by a set of factors related to the present perceptions and judgements of the participants based on their previous experiences. Although present and prior experiences may sound very ambiguous, the purpose of describing it in this way is to indicate that the variables that influence people's emotions are not only an automatic response in the face of particular stimuli. This makes it harder to recognise the emotions related to the service design process and to be open to the emotional state of others during the workshop. By improving their awareness of the participants' emotions during a workshop, service designers could more successfully adapt the flow of the workshop to create the optimal experience for successful participation and collaboration.

### 3. Research Methods

This paper considers data collected in two case studies. The first (CS 1) was an advanced service design course in Finland. The second case study (CS 2) consisted of three design sprints (workshops) carried out in Gothenburg (Sweden), Tallinn (Estonia) and Rovaniemi (Finland). Part of this material was previously published, focusing on similar themes discussed in this article (see Soto et al., 2020a and Soto et al., 2020b). Finally, this article uses material collected through a short online open-ended questionnaire, seeking to collect views from co-creation facilitators on the external factors that could impact the emotions of both participants and facilitators.

For both cases studies, the use of a specific matrix is essential to understand some critical aspects related to emotional perception. The focus of the matrix "Emotional Map" developed for CS 1 was on the emotions of students when they play a role as facilitators of a workshop. The focus of the matrix "Emotional Record" developed in CS 2 was specifically on the participants' emotions. In both cases, service design in healthcare was the main topic of the workshop. The purpose of the research strategy in CS 1 and CS 2 was to better understand the dynamics in a single setting (Eisenhardt, 1989) and to identify multiple levels of the information and proceed with the analysis (Yin, 1984). The additional questionnaire was aimed at asking facilitators their opinions about the other factors based on their experience to further develop the claims brought forward by the authors in this article. The tools used for CS 1 and CS 2 were as follows:

**Emotional map:** A visualisation of emotions according to their pleasurable or unpleasant characteristics (Van Gorp & Adams, 2012) (see Figure 1).



**Figure 1. Emotional Map tool**

**Emotional record:** A brief survey to identify the emotions experienced every day during the workshop (see Figure 2). The nine emotions displayed in the survey are a combination of the six basic emotions (Bloch, 2008) and the most common emotions identified in the “Emotional map” tool.



**Figure 2.** Emojis used for the emotional record matrix

## 4. Findings

This section shows the results from the data analysis and the corresponding reflections. The findings are organised in two sections: (1) *Variation of emotional perception*, where the data illustrate the fluctuation of perceived emotions according to the stage of the workshop; and (2) *Invisible factors that influence emotions*, where the respondents identified factors regarding their own practical experience and opinions that can influence emotions. Both sections merge results from CS 1 and CS 2 and the online questionnaire.

### Variation of emotional perception

The emotions experienced as a facilitator are diverse and depend primarily on the practical experience that one possesses. Personal skills are an essential role in the facilitator's performance, yet they are not part of traditional service design training: 'The facilitator's personality is essential in her or his role, but none has received specific training to handle emotions' (comment from a facilitator, CS 1). In both case studies, some differences can be observed, mainly depending on the experience of the facilitator.

The facilitators' emotions during the workshop are intense and fluctuate depending on their practical experience; for example, the workshops they conducted previously gave them the knowledge to handle different types of situations with flexibility and wider understanding this define their emotional perception, more or less pleasure, during the process. However, in CS 1, even for those who felt unpleasant emotions during the workshop after a few days, they remembered just the good emotions related to *satisfaction* and having achieved something. Meanwhile, CS 2 showed less fluctuation of emotions. In general, *joy*, *satisfaction* and *astonishment* were the most common emotions.

The Emotional Map tool used in CS 1 shows the perception changes during the workshop and around one week after the workshop (see Figure 3), when students reconstructed the emotions experienced according to their memories. The visualisation of this representation

shows the fluctuation of emotions before and during the workshop, moving from pleasant to unpleasant emotions, although the display of emotions after the workshop shows less variation, with more neutral and pleasant emotions.



Figure 3. Emotional map responses by the three groups

Before the workshop, the emotions of the students who would act as facilitators were diverse, and many of them were related with the expectations and challenges of being the host or leader of the activity. Therefore, the respondents added some extra emotions or emotional comments to the matrix list, such as: *we know what to do, enthusiastic & nervous, awaiting, concentrate, indifferent, sad, guilty, confused, fearful, excited, worried and nervous*. According to their answers and comments shown in the matrix, the emotions identified before the workshop extended until just before the workshop began. After the first intense part, the emotions were more related with a 'relief state', when all was running as expected, while the emotions in the last part were divided into boredom and happiness. As an example of the emotions before the workshop, one of the answers from the online questionnaire explained the combination of pleasant and unpleasant emotions: 'I love to meet and interact with people, but there are several technical (not only technological) issues that I need to be sure of'.

Comparing both case studies and the online questionnaire shows that the facilitators' emotions were quite similar independent of the type of workshop. Although this might seem obvious, when consulting the facilitators about the emotions they experienced, they stated that it was an aspect that they had not previously reflected upon.

## Invisible factors that influence emotions

The process of recognising the emotions experienced during the co-creation practice is complicated because people in general do not have accurate knowledge to define a precise emotion in a specific situation. Here, most of the answers focused on facilitators' experiences during a workshop, assuming that the emotions were triggered by the ongoing interactions. One of the most challenging aspects was determining which factors influenced the identified emotions, and even the process of distinguishing those emotions might have been affected by factors external to the specific interactions that occurred during the workshop. According to the facilitators of CS 2, they considered all the structural aspects of the space (e.g. light, walls to place papers, place linked with the project) to be important, making some connections between emotions and the environment, but just as a functional part of the activity.

People's emotions are a complex set of elements. Emotions are the reflection of the history of their interactions with different communities (e.g. family, friends, work, gym), the various situations they have faced and the way they have solved or reacted to each of them and their experiences and the growth they have enabled. People are influenced by their surroundings and the communities in which they interact; this can be seen in their lifestyle decisions and behaviours (Tolosa, 2013).



In the online questionnaire, the respondents were asked about their opinions about other or external factors that influence emotions in co-creative environments. The purpose of the questionnaire was to explore factors beyond the planning, structure or any other activity that they commonly regarded as essential to running a workshop. According to their answers, *prior* to a workshop, the external factors could be elements such as the tensions inside the organisation (between participants if they know each other), the stress related to the thought of meeting new people, the level of clarity regarding the purpose of the workshop or the language being used in the international workshops. The answers regarding the factors *during* the workshop were more extensive and detailed and thus likely easier for the respondents to identify. These answers have been organised into four topics: the atmosphere, the facilitator's skills, the workshop structure and the participant's life outside the workshop.

**Table 1.** *The factors related to the definition of the emotions in a workshop environment*

Topics	Examples
<b>The atmosphere</b> <i>All the characteristics of the room and workshop dynamics.</i>	Lights, temperature, smell, the environmental conditions, the infrastructure and the participants' freedom to express their emotions.
<b>The facilitator's skills</b> <i>The experience and proper attitude to guide the workshop and handle possible situations.</i>	'The way the group is being approached by the facilitators and how he/she/they are focusing to that workshops activities' (a questionnaire respondent) and 'how well it's facilitated' (a questionnaire respondent)
<b>The workshop structure</b> <i>The workshop design and the decisions behind it.</i>	All the decisions about the methods used, timing, dynamics, tools, materials, the topic or the purpose of the workshop. Nowadays, the workshop characteristics, such as face to face, online or hybrid.
<b>The participant's life outside the workshop</b> <i>Every person's history and reality shape his or her personality and daily attitude.</i>	'The group of people that is present in the workshop, e.g. if someone is having a bad day, that affects others as well' (a questionnaire respondent); 'For example, if one participant gets a message from dentist during the workshops that her appointment for afternoon is unfortunately cancelled. This person had a fear of dentist and now immediately feels more relaxed' (a questionnaire respondent).

There were some clear needs and a desire to affiliate with life or lifelike processes. This is reflected in human–nature interaction, which defines the cognitive and emotional

characteristics of humanity. There is also an intentional human–nature emotional bond, and as a consequence of this bonding, the protection of nature is a natural reaction to this connectedness (Lumber, Richardson & Sheffield, 2017). The interactions in a workshop seek to achieve such connection, and although there is always a highly personal component, the facilitator can contribute to guiding that feeling of belonging. The facilitator is a guide in this process, as described by one of the questionnaire respondents:

I have noticed that it is important to the participants to know that even if they are working independently, the facilitator is there to help if there are questions or problems, it is important to be present during workshops.

The case studies provided an overview of the emotional experience in a co-creation workshop, the knowledge of case studies respondents about emotions and the lack of precision in its identification. The answers to the online questionnaire added more detail about the factors that influenced the facilitators' emotional perception. The three methods used provide a visualisation of the emotional perceptions of the facilitators and participants. Although the identified factors could be examined in more depth in future research, this article shows that there are also many unexplored areas related to the emotional flow of collective creation and what defines it.

## 5. Conclusions

The data collected from CS 1 and CS 2 and the questionnaire give specific information about emotions but also raise new questions. The results and reflections in this article suggest that understanding emotions within a community requires consideration not only of the visible part of the interactions but also what happens with each person. There are numerous factors that affect the attitudes, decisions and behaviours of the participants, that is, the 'world' behind each participant, and life does not stop while people are in a workshop. All of these factors, with more or less intensity, contribute to building a specific atmosphere for the co-creation experience.

The article highlights that emotions are part of a complex group of factors, which depend on the participants themselves, other situations related to them and the conditions around them. The way in which participants process all these experiences depends on the individual and the specific situation. Therefore, emotions are not only a direct consequence of a person's momentary experience; rather, they are a sum of elements, including the recent transportation experience, smells, music, colours, temperature, family issues, health problems or work-related situations. In this sense, facilitators must develop the ability to forecast situations and nurture collective creation environments, considering all the factors that influence the participant's experience.

The real challenge is to generate an emotional climate that supports a stimulating co-creative environment. It is crucial to consider all of the participants in the space, not only people (e.g. users and stakeholders) but also the specific conditions of the space and the environment

(e.g. non-human living beings, climate, culture). The opportunity for the facilitator is to increase his or her awareness of everything that constitutes the situation, fostering empathy as a natural response when interacting with others and making the participants feel like part of the definition of the workshop's atmosphere.

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#### About the Authors:

Mariluz Soto is a researcher in the service design research group Co-Stars and a doctoral candidate at the University of Lapland. Her research interests are the relation of emotions with design, community interactions in co-creation practices, communication and nature.

Caoimhe Isha Beaulé is a doctoral researcher at the University of Lapland and a member of service design research group (Co-Stars). Her current research focuses on the social and cultural dimensions of participatory design in the perspectives of design for sustainability.

Satu Miettinen is a professor of service design at the University of Lapland. She works as a Dean of the Faculty of Art and Design. She has a strong design research interest for the complex, extreme and marginal contexts. Her research interests include the areas of social and public service development, citizen engagement and digital service development.

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