

Mapping and understanding the potentials of co-creative efforts in museum experience design processes

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Abstract

In current museum practice, policy, and literature it is indicated that to be able to live up to today's communication standards in a museum context, different types of expertise need to come together in collaboration. However, in museum literature, collaborative projects have often been evaluated in terms of their overall perspectives and outcomes, rather than discussing how the collaborative and co-creative efforts are shaped and feed into the designs. Therefore, this paper suggests an initial framework for understanding and discussing collaborative constellations and co-creative processes in museum experience design, by presenting a Venn diagram. This builds on a case study of three recent collaborative constellations between designers, museum professionals and museum visitors.

Keywords: co-creation, co-design, museum experience design, collaboration, museums

Co-creation for Museum Experience Design

Collaborative processes have always been characteristic of museums. However, an increased focus on including and engaging museum visitors was fueled during the latter part of the 1900s, due in part to the movement ‘new museology’ (Vergo 1989) and developments in the visitor studies (Hooper-Greenhill 2006; Schiele 2016). Both suggested a redefinition of the relationship between museums and their publics with a focus on engaging the public as active interpreters of meaning-making and experiences (Hooper-Greenhill, 2006). The ‘new museology’ movement placed an increased focus on how museums could become more transparent and engage more diverse publics, through democratic and inclusive communication strategies, allowing perspectives from the users and communities who surrounded the institutions, or had a stake in the collections (Weil 1999; Stam 1993; Black 2005; McCall & Gray 2014). Such changes in museums are only further enhanced by pressure from an experience economy sector with increased users demands for personally designed experiences (Pine & Gilmore 2011; Skot-Hansen 2013). Furthermore, danish cultural policy is increasingly viewing arts and culture as an instrument for so called “wicked” (Andersen et. al. 2017) societal problems such as social and cultural inequality. This was manifested in the cultural policy strategi “Culture for all” of 2009 and since then, in the ongoing initiatives focused on how to include diverse users in the development of public cultural institutions, through strategies of user participation - and innovation (Kulturministeriet 2009; Kulturministeriet 2012).

In turn, danish museum practice is moving towards more collaborative and participatory strategies overall and are currently highly focused on *how* user-perspectives can enter the processes of interpretation, conceptual development, and design, with the aim of creating experiences that are both relevant and engaging for diverse users. By relevant and engaging, we mean experiences where the museums’ knowledge and/or collections are communicated and activated in ways that users understand and find meaningful and useful in relation to their own lives. As such there is a strong demand for concrete methods of how to make this happen, also recog-

nizing, as Knudsen and Olesen (2018) have indicated, that being able to live up to such communication standards requires different types of expertise to come together in collaborative constellations.

Many interdisciplinary collaborative projects between museum professionals, designers, and museum users, have been initiated and undertaken in Denmark in recent years e.g., research programs such as DREAM (2009-2015), the GIFT-project (2017-2019), Our Museum (2016-2021). However, Knudsen and Olesen (2018) argue that collaborative projects and processes have often been evaluated concerning the overall perspectives and outcomes, rather than discussing the complex challenges that arise during the collaboration. MacLeod, Dodd, and Duncan (2015) and Hughes (2015) recognize and discuss the interdisciplinary or multidisciplinary nature of exhibition design teams, but do not elaborate on collaborative aspects. MacLeod, Austin, Hale, and Hing-Kay (2018) explore experimentation, participation and collaboration between designers, users, museum specialists, and researchers in various formations, and underline Hughes' (2015) argument that designing an inspiring visitor experience, requires an army of exhibition professionals, which begs the question of why this area in museum design research is not more prominent.

We agree, that for museums to create the relevant and engaging user experiences that they aim for, different types of professional expertise and user perspectives ideally need to come together in co-creative collaborations. This standpoint also lies at the heart of Museum Experience Design, as a research field. We also agree that even if collaborative design processes are a common process in museums today, the complexities and actual co-creative efforts of these specific collaborations are still a rather poorly documented area within museum literature, even though the research field of co- and participatory design is a well-developed field on its own (e.g., Sanders 2008; Sanders & Stappers 2014). Co-creative design in museums specifically is however a highly relevant topic, since many museums and designers find it challenging to undertake collaborations and often fail to benefit from each other during the process, making the designs (and user experiences) weaker.

To frame the theoretical context of co-creation in museums, this study is set in the interdisciplinary research of *Museum Experience Design* (MxD) - a subfield of museum design research which has

developed significantly since 2000 (MacLeod et al. 2015). The research field is predominantly defined by Vermeeren and Calvi et al. (2015; 2016a; 2016b; 2018a; 2018b), indicating a sharpened focus on experience design, user-centered approaches, and technologies in experience-making. Distinctively, MxD is focused on experience design enabled by technology, interaction design, and storytelling in the museum context. MxD can be argued to build bridges between the constructive approaches to exhibition-making focusing on the material and built environment (e.g., Dean 1994/2002; Dernie 2006; Hughes 2015) and the understanding of museum users experiences and meaning-making processes (e.g., Bedford 2014; Falk & Dierking 2013/2016; Hooper-Greenhill 1994; Roppola 2014). It does so by emphasizing mediated communication and how interaction is initiated and enhanced to enrich the overall museum experience.

A MxD co-creative framework

This paper proposes a first step towards a framework for visualizing, understanding, and discussing the dynamics of co-creative museum experience design. The intention is to create a foundation for discussing the complexities of collaborative processes (Knudsen and Olesen 2018; Hughes 2015) and as such, for understanding how collaboration takes shape and which challenges and potentials arise during the processes. The framework represents a specific collaborative construct between designers, museum professionals and users, seen in newer research projects such as Our Museum (2016-2021) and in many other recent and current collaborations funded by either universities or private funds. It is also a constellation typically discussed in current literature on co-creative dynamics in museum design e.g., Hughes (2015), MacLeod et al. (2015), and Knudsen and Olesen (2018). The three cases in this article represent the authors' experiences with this collaborative construct, in which we have had the role of designers, working in collaboration with museum professionals and museum-users. The empirical data on which each case is based, consists of field notes, visual material, and written documents from design activities during the processes and from joint evaluations undertaken by designers and museums in collaboration.

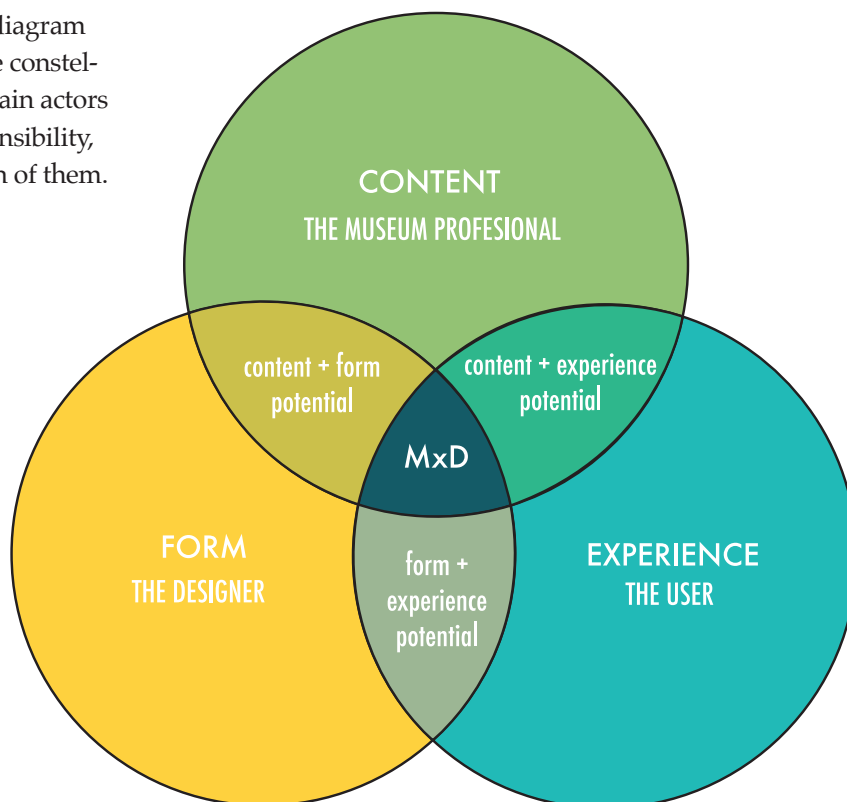
As a framework for illustrating and understanding the collaborative process and co-creative potentials, three dimensions are sug-

gested for consideration; *content*, *form*, and *experience* (fig. 1). These dimensions respectively represent, *the museum professional*, *the designer*, and *the user*. The division is meant to largely illustrate three typical roles in co-creative processes in museum experience design. A *museum professional*, e.g., a curator, considered a guardian of history and artifacts and with decision power regarding *content*. A *design professional* considered a specialist in communication and *form* and of user-centered design processes. And lastly, *the users*, considered specialists of their own personal meaning making and overall *experiences* of the designs.

The categories are set up to roughly illustrate a typical division of expertise in an MxD process. In practice though, each dimension can be represented by different professions.

By visualizing these collaborative dimensions through a Venn diagram, we suggest that designers, museum professionals, and users each have different competencies that intersect and that can come together through co-creative processes, to build the strongest possible MxD, illustrated at the center of the framework. The intersections between each of the dimensions can be further described as such: Between the museum professional and the designer is the potential of collaborating in a way that allows for *content + form* to develop jointly in a reciprocal process from the beginning of a project. *Content + experience potential* represents the potential of museum professionals and users working together on exploring and understanding how certain content can be understood and experienced. Lastly, *form + experience potential*, is the intersection between designer and user, representing the knowledge and understandings that they can share about the material, spatial and physically interactive possibilities, potentials, or limitations of a certain design. All three intersections have the potential to contribute to a strong MxD, but the potential needs to be utilized jointly *during* the development process.

Figure 1: The here pictured Venn diagram visualizes a common collaborative constellation in MxD comprising three main actors and their respective areas of responsibility, and the intersections between each of them.



To clarify, the distinction between collaboration and co-creation in this context, is defined in reference to Rill & Hämäläinen (2018). They understand collaboration as the general process of working together on a museum experience design, through contributions based on each participant's profession. Co-creation, however, is understood more specifically as different professions jointly creating together, through activities such as development workshops, design iterations, and continuous co-creative efforts that allow for a joint concept to be formed. Thus, co-creation *can* happen, but does not necessarily do so in all collaborations. The model is thus meant to provide a framework for considering these aspects of collaboration.

Three Cases of Collaborative Constellations

In this section, the framework will be used to retrospectively explore three recent danish collaborative projects in terms of their co-

creative efforts towards a strong MxD. In each case, one designer (also a researcher) collaborates with museum professionals and museum users on designing user-centered museum experiences, over a period of three years, with *Research Through Design* (Frayling 1993) and *Constructive Design Research* (Koskinen et al. 2011) as the main approaches. This places a strong emphasis on developing and testing prototypes, in relation to data collected by means of observations, interviews, workshops with museum professionals and users.

In neither case does the designer have prior expert knowledge about the contents of the museum's collections. Instead, designers are brought in to undertake design processes for new initiatives, in collaboration with the museum professionals and users, while also doing research into such processes.

To keep focus on the overall type of collaboration in this article, the museums have been anonymized and referred to as *an art museum*, *a cultural heritage museum*, and *a house museum*. Each case analysis aims to highlight the dominant characteristics of the collaboration, by outlining the constellation construct itself, how different actors have collaborated and how their competencies have intersected and come together. Finally, we discuss if and how co-creation has happened in each case.

An art museum

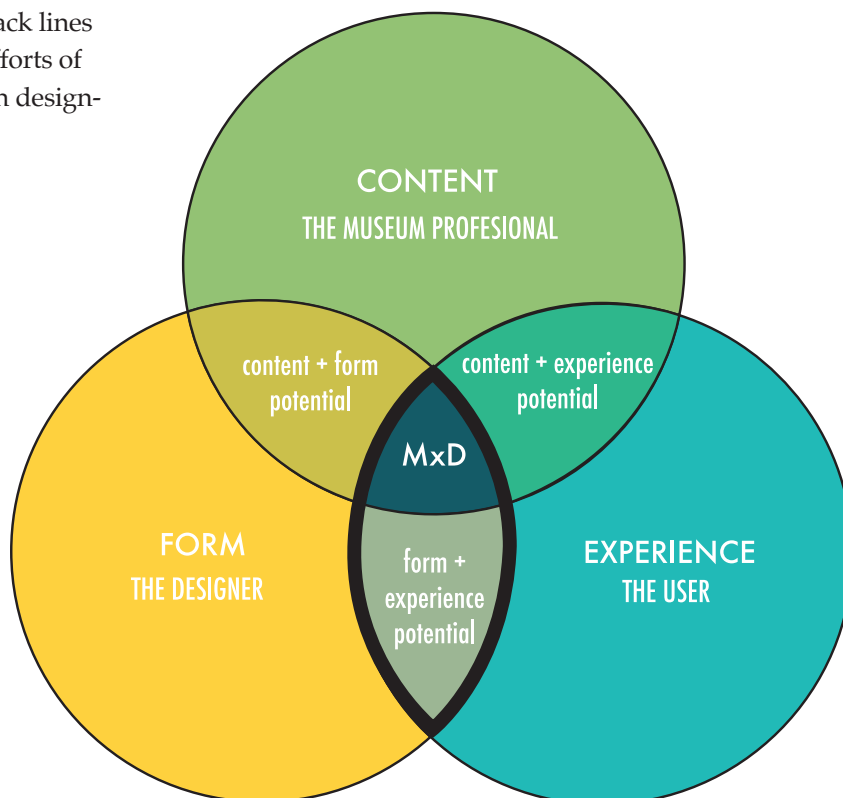
The small art museum collaborates with a designer who has a background in arts and visual culture. The project aims at attracting new and local users by developing new communication designs for the museum. The designer is only partially based at the museum during the project and does not participate in ongoing staff meetings. She holds meetings with the museum director about the overall development of ideas and designs but takes on the main task of the creative development and is thus responsible for idea generation, conceptual development, prototyping, and all contact with museum users. In this case, the actual collaboration between designer and museum professionals consists predominantly of museum professionals providing information or giving feedback on concepts already developed by the designer. In this sense, museum professionals do not take active part in the creative development and the designer ends up having an external role. She works mostly independently and does not consistently communicate ideas, develop-

ments, and insights on any staff meetings. The potential of utilizing expertise on both content and form (fig. 1), through joint and on-going mutual co-creation, is therefore not realized in this case.

The designs created in this case however, become strong in form, since the designer gains valuable insights from local citizens, who are also the target users. Through in-depth interviews, the users share knowledge about their museum experiences, and discuss ideas concerning technologies and interaction potentials with the designer, who uses such knowledge as a basis for developing the designs, thus making the users the main co-creators in the design process. As such, the design fundamentally grows from this intersection between *form* and *experience*, and in the end, many users also find the communication methods highly relevant and engaging (according to the evaluation undertaken as part of the project). There is no direct contact, however, between museum professionals and users during the development process. This means that any potential for museum professionals to learn about the users' interpretations of content and collection objects in ways that might benefit the design development, is absent in this case.

The co-creative potential, in this case, is predominantly realized between the designer and the users, while the potential between museum professionals and designers/users remains largely untapped. Since the museum professionals have been mostly on the side of the project, rather than co-creating the designs, they do not have any elaborate interest in or sense of ownership of the designs either, making it more difficult for them to understand and use the designs after the project has ended and the designer has left. As such, using the framework, we can see how the emphasis of this collaboration is placed between the designer (form) and user (experience) dimensions (see fig. 2).

Figure 2: The art Museum: The black lines emphasize the main co-creative efforts of this collaboration. Mainly between designer and user.

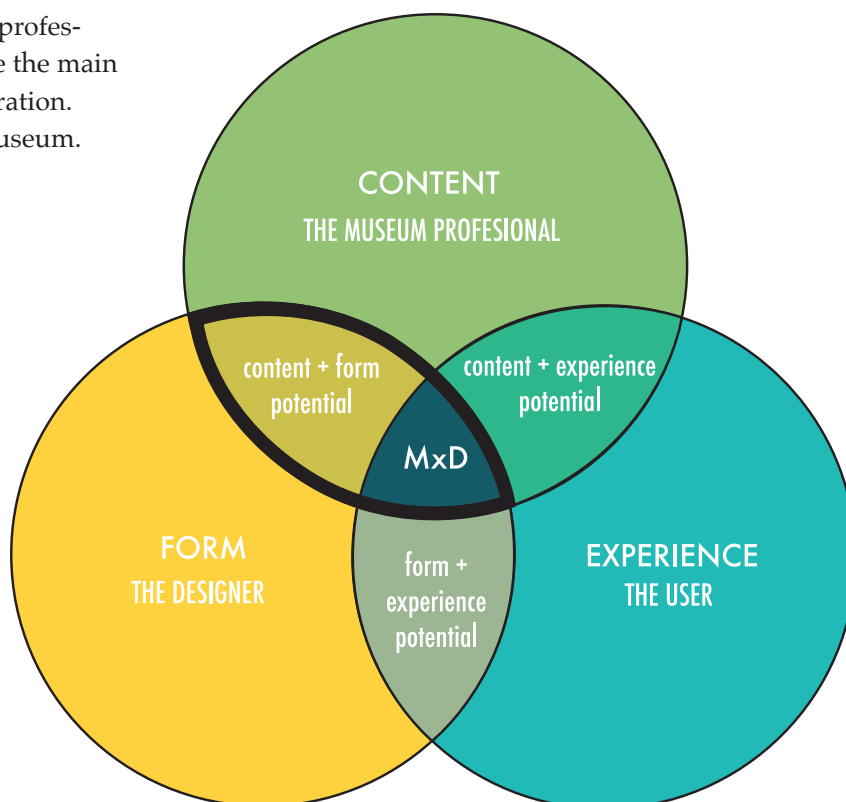


A Cultural Heritage Museum

The small cultural heritage museum collaborates with a designer from the experience design field. In this constellation, the designer collaborates primarily with one museum curator, while also occasionally in dialogue with other staff, and users about the creation of a new exhibition. The designer is considered a permanent staff member, and joins regular staff meetings, which allows continuous dialogue with the museum. In this sense, the designer is not considered an external, but is nevertheless the main designer, responsible for form e.g., giving shape to the exhibition, prototyping, and facilitating the design process. The designer is also in charge of any user research and contact. In this case, the museum curator plays a central part throughout the entire process, providing historical knowledge and artifacts. Co-creation is primarily executed through workshop settings, where tangible and generative elements drive the design development and create a space for a shared design lan-

guage. For each session, the different parties prepare and contribute to advancing to the next step of the development process. As an example, the museum curator finds source material, stories, artifacts, etc., relevant to the exhibition narrative. The designer chooses design elements able to communicate the narrative and plans out how to realize the interaction potentials through technologies, graphic styles, materials, or user insights. In the joint workshops, these efforts come together, and the project takes new form. In turn, collaboration in this case evolves through a co-creative process between the designer and museum curator making MxD a shared effort (fig. 3).

Figure 3: Designer and museum professional. The black lines emphasize the main co-creative efforts of this collaboration. Mainly between designer and museum.



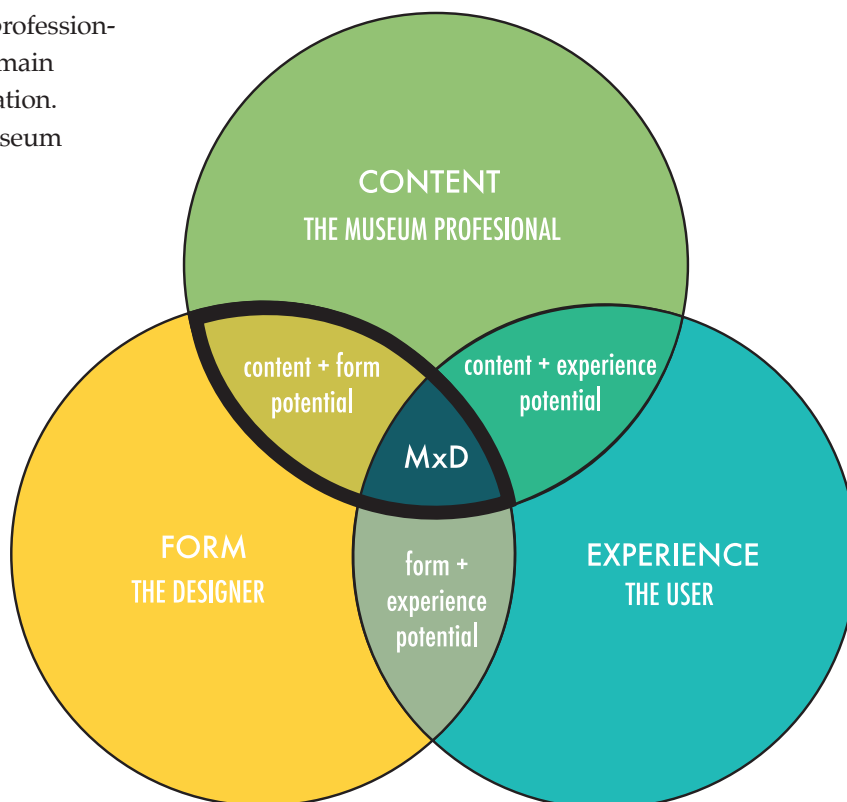
Users are also involved through continuous prototype testing to inform the design. The design process is not exactly participatory, but user-centered through the continuous dialogue with the museum

users. Returning to our framework, the collaborative nature of this case incorporates all three MxD dimensions to some extent. The main emphasis however is intentionally placed on the intersection between designer and museum professionals, since this specific project is also intended to introduce the museum to user-centered experience design methods, with a specific aim of creating sustainable changes in the museums approach to exhibition design. The advantage of having only two people working together in the co-creative process; decision making is quick and as the collaboration evolves, ideation becomes implicit in discussions as a shared understanding. The fragility of the constellation, however, is that only one person from the museum has been involved. In this case, this person leaves the museum, thus, leaving the museum without any permanent staff fully invested in the designs.

A House Museum

The house museum collaborates with a designer from arts and museum communication. The purpose of the project is to develop new methods for communicating about immaterial cultural heritage in the house museum setting, in ways that seem authentic to users. In this case, the designer has ongoing communication with the museum director but also works closely alongside two permanent museum curators. The designer is considered part of the permanent staff and joins all regular staff meetings, where ongoing work and ideas are presented, and feedback is given. Ongoing workshops and meetings are also set up between designer and museum curators, with the aim of establishing a shared design language and joint goals from the outset. Going forward, idea generation and content development is undertaken jointly, through discussions and use of design thinking exercises such as joint brainstorming, affinity mapping, and continuous discussions on the relationships between form and content. Thus, collaborators share professional expertise and influence each other during the process. This, more complex and practically demanding collaborative constellation where many museum professionals are joining the collaboration is rooted in a clear shared ambition to learn from each other at an early stage, and throughout the process, with the specific aim of creating a sustainable experience design.

Figure 4: Designer and museum professional. The black lines emphasize the main co-creative efforts of this collaboration. Mainly between designer and museum



This collaborative constellation demands more time, staff resources and compromise, on behalf of both the designer and the museum professionals. At times, decisions are harder to make, when multiple perspectives are involved. In the end however, the consistent and joint design exercises allow for the museum curators' knowledge on narratives and historical perspectives to blend with the designers' expertise on communication methods. This means that museum professionals alongside the designer, feel a sense of ownership of the designs, and can engage users in it, even after the designer has left.

In this constellation, users are brought in to test out prototypes along the way, but they do not join the actual co-creative design exercises. As in the other two cases, the designer also conducts user testing, user evaluation, and as such all direct contact with the users, while museum professionals are merely informed of the user

findings along the way, by the designer. Once again, users take on the role of informants, and not co-creators.

Discussion & Conclusion

As shown through the cases, MxD collaborations between museums, designers and users come in varied constellations. In each of the cases, the frameworks' three dimensions (and actors) are all engaged to some extent during the collaborative process, but in different ways. What the framework illustrates is that emphasis can be placed on different intersections, each with a unique potential for joint creation. What the cases also illustrate however, is that although there is a potential, it is not necessarily realized because some actors tend to work parallel or individually rather than actively co-creating something. Looking at the three cases, it also becomes clear via the framework, that the collaborative potential between museum professionals and users, is not fully realized in any of our cases. Users are still predominantly invited to join the design process at later stages when the basic concepts and ideas have already been decided on. This points to a possible weak spot in current collaborative MxD constellations. The final designs would most likely benefit from museums professionals and users collaborating more closely from the outset, making the content side of the designs more likely to develop *in relation* to user perspectives, rather than merely being tested on them later. Our three cases are placed at art and cultural history museums. We could however look towards natural history museums for inspiration, where methods from the field of *citizen science* is currently on the rise, including several collaborative MxD projects where users are included as vital resources in the process, from the outset of the projects.

The framework cannot and should not dictate specific collaborative approaches or levels of co-creation, but it can support the discussion of where and how co-creation can or should emerge or be strengthened. As seen in these cases, the three dimensions visualized in the framework, provide a foundation for both discussing the dynamics of an existing collaboration and planning a new one. It does so by allowing us to consider where and how co-creation could favorably emerge or be nurtured. Even if simplistic, the division of the collaborative constructs into form, content, and experience supports the identification of different roles and areas of main

expertise and responsibility, thus, providing a foundation for discussing how and between whom co-creation can happen.

Further development of the framework could be done in terms of expanding the number of collaborating roles and dimensions, since many museum collaborations include more than the three dimensions represented here. Further developments could also include a consideration of how to fully realize the collaborative potentials between each dimension, through the facilitation of co-creation with notions of third space communication and shared design language (Sanders & Stappers 2014), i.e., concrete suggestions on how to involve users, facilitate co-creation, or embed new technology or experience potentials. This should include a consideration of the broader research perspectives from co- and participatory design. In turn, providing museums with concrete tools for how to utilize the potential of each intersection and as such to live up to today's communication standards and demands for user-oriented exhibitions in museums.

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