

Technology and Community Engagement in Sensitive Contexts: Reflections on Two Site-Specific Sámi Art Projects

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Abstract—Aligned with Sami Center for Contemporary Art (SDG)'s vision to foster cultural and artistic engagement within and beyond the Sámi community, it is important to explore the role of technology applied in the center. This research examines two cases: within an artist talk, and in the form of 3D printing and interactive DIY electronics within the Techno-Lab project, which included a virtual reality (VR) application as part of the installation. As the only place in Karasjok where visitors could experience VR or create prototypes, the center became a meeting point for those interested in art and technology. This study focuses on the authors' experiences as facilitators in these projects. The research question asks: How can non-Sámi facilitators critically engage with and interpret the dynamic interactions between technology and the local Sámi community in the context of two artistic projects involving trauma-related content? Arts-based research was adopted as the research strategy. The data include field notes, drawings, and photos from the two cases, which were analyzed using a general inductive analysis approach by both authors. The results broadened the authors' understanding of the Sámi community's needs from both physical and emotional perspectives. They also propose a new conceptualization of technology, considering the perspectives of the Indigenous community—particularly marginalized Sámi women—as well as historical contexts. The results highlight the importance of both language and cultural translation within and beyond the Sámi community. Additionally, the authors' reflections on their positionality emphasize the value of fostering an equitable environment where community members, as relative outsiders to different experiences, can learn from one another and share their knowledge. The research provides recommendations on facilitating technology-based community engagement in artistic institutions working with sensitive topics. These findings are valuable for fostering Indigenous autonomy and supporting practitioners at the intersection of technology and facilitation.

Keywords—*Technology, Sami, Community Engagement, Arts-based Research*

I. INTRODUCTION

This study explores technology-based interactions and audience communications at an art center in the Indigenous Sami community, building on two cases. The study uses the following terms: Technology refers to the site-specific technology used during an artist talk, such as microphones, as well as technology used in a Techno-Lab project, such as three-dimensional (3D) printers and virtual reality (VR) experiences, in the case of Silja Somby. Facilitation means creating a meeting space between artists, audiences, and creative processes. Sensitive content refers to the Sámi context of projects in this community and artistic projects addressing themes of violence in close relationships and historical trauma.

The artist talk was conducted at the Sami Center for Contemporary Art (SDG) based on an exhibition created by artist Marte Lill Somby. The curator was Marija Griniuk, and the moderator was Shasha Mi. The exhibition consisted of two projects. One, a collective project called Skrevet i Stein (Written in Stone), was created by artists and “Sámi women who have experienced violence in close relationships in Sápmi” [1]. The other focused on the artist's self-exploration, her identity, and reflections on her life experiences, which addressed “themes such as abuse, mental health, and death” [2]. The purpose of the artist talk was to tell the stories behind the exhibition, focusing on the art-making process and facilitation—for instance, how the artist approached and interacted with other participants, fostered dialogue with the local audience, and exchanged

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cultural perspectives with the moderator, who has similar artistic and practical experience working with gender-based violence survivors in Fukuoka, Japan. During the artist talk, microphones and lighting were used to engage the audience (Figure 1).



Fig. 1. Spatial arrangement of the artist talk. Photo: Marija Griniuk..

As the second case, we explore the Techno-Lab project staged at the SDG in 2023, which involved a VR experience arranged by the artist Silja Somby. One of this paper’s authors, Griniuk, served as the project manager and developer for Techno-Lab and the curator for the VR experience. The Techno-Lab project focused on making the technology and do-it-yourself (DIY) culture of Karasjok known to a broad range of visitors. Techno-Lab was supported by Sparebank Nord-Norge as a pilot project to test whether such a workshop space could potentially be converted to a FabLab format. The attendees were invited to try 3D printing, learn about 3D modeling or DIY electronics, create experimental sound instruments, and reconfigure electronic equipment—such as toys—into new instruments. The local facilitator and teacher at Techno-Lab had a background in computer science and could guide the participants in realizing their ideas for prototypes or projects. Techno-Lab was also used to produce ornaments, such as a 3D print expressive of or inspired by traditional Sami ornaments and applied to clothes or textile designs. The DIY sound instruments could be used for workshops and attractions for youth and children (see Figure 2).

The VR experience presented by Silja Somby was designed to expand the interconnections between SDG and technology, transforming an art center into a space for technological exploration. Somby presented a video themed around historical drums in the Sami community that were taken by the authorities. The visitors, while excited about this one-person VR experience, also needed guidance on, for example, where to stand and how to use the equipment. Visitors mentioned that they got dizzy after the video and that the experience was emotionally powerful.

To develop further strategies for applying technology at the SDG, it is important to examine the role of non-Sámi facilitators in engaging with the community. Therefore, the research question in this study is, how can non-Sámi

facilitators critically interpret the dynamic interactions between technology and the Sámi community within the context of two artistic projects in sensitive settings?



Fig. 2. A DIY sound instrument: Creating sound by touching bread. Used during workshops by Marija Griniuk. Photo: Johanna Sims.

This article includes an explanation of key terms, concepts, and methods, along with a presentation of the cases involved. A reflection and the main findings follow, which prompt recommendations for using technology in similar contexts—that is, in small communities and projects addressing complex and sensitive topics.

II. MATERIALS AND METHODS

This section presents the concepts used in this article. Since both projects took place in Sapmi, in the Arctic North, the site-specificity of the projects also highlights their context [3]. In the Finnmark region, there is currently only one FabLab, and the Techno-Lab project was the only place in Karasjok to host experimental technology. This is why the audience members were less accustomed to technological interaction and experimentation than, for example, visitors to universities or art academies. Situated digital communication refers to the site specificity and importance of the local context in creating spaces for technology-based learning or technological interactions in exhibition spaces [4].

The definition of technology has been widely discussed by scholars. Axell [5], who researches technology education in Swedish Sámi schools, defines technology as “more than modern high-tech; it is an age-old tradition of problem-solving, modification, and adaptation to fulfill human needs”. Similarly, Cavalcante [6] emphasizes that technology extends beyond machines and computers, highlighting its role in facilitating computational thinking—a cognitive process that “involves the ability to solve problems, think logically and creatively, and communicate ideas clearly and concisely”. Technology is inherently flexible, requiring individuals to actively develop strategies for navigating different contexts. As Löfmarck and Lidskog [7] argue, “Each technique can provide different forms of coping, depending on the circumstances”. In this

conceptual framework, the application of technology in artistic activities at the SDG is understood as a dynamic interaction between technological tools and the specific needs of the local Sami community in each case. Rather than viewing technology as a fixed entity, we emphasize its adaptability and actively seek strategies that respond to this dynamic interaction. All the cases are discussed in the local context of Karasjok and of the Sami Center for Contemporary Art as the site for technology application for exhibitions and education.

It is essential to consider the broader impact of technology. In the context of technology education, Axell [5] argues that technology transcends its practical applications and carries symbolic value, influencing “children’s cultural identity”. While technology creates opportunities for positive change, it also raises risks. Technology “not only serves as a catalyst for social and cultural transformations but also causes a number of social challenges, including resource imbalance, risks of dehumanization, and new forms of inequality” [8]. Therefore, we examine the impact of technological applications on specific groups and sociocultural contexts.

Another key concept in this study is facilitation. The authors aimed to fulfill the role of facilitators by fostering colearning relationships with other participants. They explored the definition of facilitation to develop a mindset that would guide their reflections. Drawing on research in education and the arts, the authors conceptualized the facilitator as one who “empowers the autonomy and holism of the learner” [13]. Heron’s [13] interpretation of holism suggests that facilitation should simultaneously address “the domains of body awareness, emotions and attitudes, interpersonal relations, social and political processes, psychic and spiritual awareness”. A crucial aspect of facilitation is sensitivity to context, which involves helping to “create an emotionally safe, trusting landscape” that encourages “honest, brave exchange” [9]. Facilitators must open their minds and embrace “the immersive, situated, subjective nature of the researcher and the research process. It often leads to a fertile, messy mix of resonance, new understanding, multiple meanings, and further questions” [9].

Kuokkanen [10], a scholar of political science and Indigenous studies, notes that some Indigenous women conceptualize sovereignty and autonomy not in terms of power, authority, and domination, as in European traditions, but rather as practices embedded in everyday activities and ceremonies. Accordingly, we emphasize the importance of defining technology and facilitation practices from Indigenous perspectives.

Arts-based research (ABR) is the method adopted for this article. ABR allows for a holistic approach to inquiry by integrating the perspectives of the researchers, who are artist-practitioners, and by highlighting themes interpretable from the multiperspective of the involved actors [11]. ABR enables new dialogues and participatory experiences to emerge and makes new expressions possible by cocreating with the participants, coexperiencing the art—as in the case

of Somby’s VR experience—or codiscussing with the audience members, as in the example of the artist talk.

Data Gathering

Data on the Techno-Lab project and VR experiences were collected using observation notes, journaling, and conversations with users, which later were archived by the method of art journaling. Photos were taken of the Techno-Lab workshops with the participants’ consent. Based on field notes which include interactions with the artist, and questions and comments from the audiences following the artist talk, one author, Mi, used art journaling [12] (See Figure 3). It was a method combining texts, charts, and sketches—to document reflections on the artist talk. The author adopted this arts-based practice because she experienced intense and complex emotions while reflecting on the talk. Moreover, the context of the talk encompassed layers of sensitivity. By combining text and images, art journaling enabled the author to delve into her complex emotions, visualize the relationships between multiple sensitivities, and share and discuss her reflections with the coauthor in a more comprehensible way.

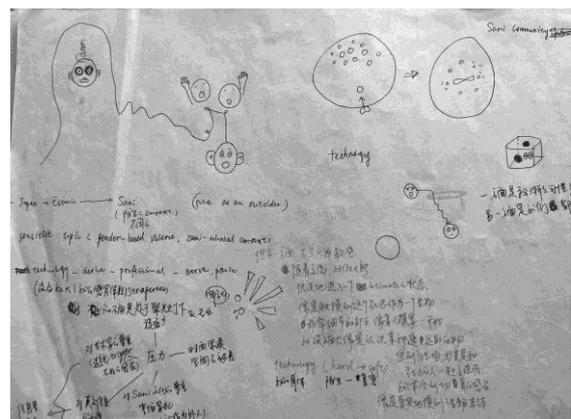


Fig. 3. An example of art journaling: drawing and reflection text. Developed by the author.

Data Analysis

Based on the previous definitions of technology and facilitation, to explore the dynamic relationship between technology and the local Sami community from a richer perspective, the authors need to reflect on the specific projects to analyze the concrete context. Therefore, the authors chose the general inductive analysis approach as the analytical method [14].

The authors shared textual and visual data through a shared Miro board and Google Document. Based on individual reflections on their respective cases, they read each other’s data and provided comments. Furthermore, the authors conducted two online Zoom discussions to analyze the raw data derived from their reflections and to synthesize key themes.

All reflections on the research data related to the artist talk were consolidated into the chart of figure 4 on

Miro. The authors compared these results with the data on the Techno-Lab and cross-checked the key themes.

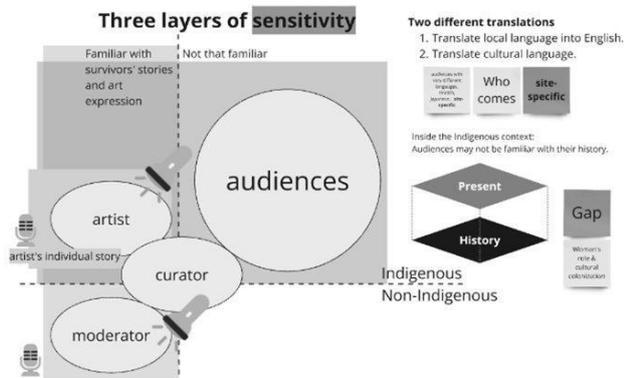


Fig. 4. Different aspects of reflection and relationships between attendees at the artist talk. Developed by the authors.

III. RESULTS AND DISCUSSION

Accessibility

Accessibility serves as a key perspective for understanding technology, but its definition varies in each case. The projects examined in this study were site specific in their connection to the Indigenous Sami community in Karasjok. The availability and usability of the tools, such as VR and 3D printing, varied among audience members with different degrees of experience; this was some users' first VR experience. The Techno-Lab project, as the only experimental technology space in Karasjok and one of very few such places in Finnmark (the county currently has only one other project with a similar format, i.e., FabLab), addressed the need for increased access to digital tools in the local community and became a center for creative coproduction as well as a repair station, where people could come to repair plastic or other material parts for their items.

In the context of the artist talk, accessibility meant not only using technology to convey Sámi women's lived experiences but also reimagining and redefining the role of technology. Microphones and spotlights amplified the voices of the artists and other participants, conveying their trauma-related life experiences to a broader audience, evoking resonances and responses. However, as one attendee noted, some girls lack the language to express themselves because they are too young to even understand their experiences. The findings highlight the need to consider the amplification and visualization of silenced voices when designing technology.

Multidimensional Sensitivity

This theme highlights the sensitive content presented in the projects—content inspired by multidimensional trauma and cross-cultural dialogue. Sensitive content in this study includes projects addressing historical trauma, such as the reference to the historical confiscation of traditional Sami drums by the authorities documented in Somby's VR experience. Similarly, the artist talk with Marte Lill Somby examined themes of identity, personal history, and

collective trauma. The moderator of the discussion was a researcher with similar experience working on the topic of gender-based violence within the Japanese community. This cross-cultural dialogue provided a meaningful opportunity to explore how different communities navigate and express histories of trauma through art and storytelling in the artist talk. However, in the reflection, the moderator wrote about the anxiety experienced in the sensitive context of conducting the artist talk: "I felt like I was sitting on the edge of a volcano, as there were so many things to consider. The pressure came from my desire to create a safe environment for both the artist and the audience. I didn't want to trigger any negative feelings in them. I was also concerned about not offending Sami culture as a non-Sami outsider." The reflection also indicated that the anxiety was influenced by the use of the device and the layout of the space. The reflection was further developed into figure 4, showing different layers of sensitivities, the relationship between device use and attendees.

Site Specificity

Karasjok is in a remote area. In such a context, technology is not a neutral tool but is rather shaped by the environment, the experiences of the community in which it is implemented, and traditional practices of creativity and making. For example, the Techno-Lab project introduced 3D printing, DIY electronics, and interactive media to a community where such resources had been largely unavailable. It was important to highlight the usability and usefulness of such technology. For example there was a comment from a resident of Karasjok, that she had previously attempted to set up a technology learning meeting place in Karasjok, but they lacked equipment. Another comment from the user was that repairing a camera by ordering a new detail would be quite expensive, but at Techno-Lab he could just 3D print the missing detail for his camera. From these comments it's evident that Techno-Lab could solve some practical issues within the local community. This is why the laboratory also became a station for repairing, for example, the broken plastic camera elements. The introduction of these technologies was not designed merely to provide access, that is, a physical location in which users could receive guidance and accessible tools, but also to adapt them to local cultural and artistic practices. For example, one user stated that DIY electronic instruments could be interesting to implement in her practice as a DJ.

In the artist talk, site specificity was primarily reflected in the translation of languages and cultural backgrounds. This necessitated translating English into the local language, as well as translating different cultural contexts. The translation was canceled due to an unexpected occurrence; however, the audience strongly insisted that the talk be translated from English into the local language. When discussing cultural specificity of gender-based violence occurring within the Sámi community, even though the moderator had read some research materials before the talk, many challenges were

not covered in previous studies and still require further discussion. For example, as the artist noted during the talk, there is no self-help group or similar institution in the Sámi community.

The Gap between History and the Present

The gap between history and the present concerns how historical events, cultural heritages, and past traumas are reflected in contemporary society. The traumatic experiences, artistic expressions, and technological engagements were those of the younger generations of artists, who do not have direct experience of the historical events but know the narratives retold by their grandparents, who experienced, for example, relocations and the introduction of borders in Sápmi.

Discussion

The findings helped the authors better understand the needs of the Sámi community from both physical and emotional perspectives. Physically, due to the location of SDG in Karasjok, technology is not often applied as part of artistic creation. Therefore, there is a need to expand opportunities for people to engage with new technology by integrating it into the daily lives and needs of the local community. Emotionally, for historical and cultural reasons, exhibitions at SDG sometimes involve trauma-related content. Technology should be employed to create an emotionally safe environment, amplify survivors' voices, encourage others to witness artists' stories, and promote public discussions on related issues.

The findings reinforce the need for a new conceptualization of technology. Within the Sámi community, some individuals who have experienced gender-based violence struggle to find the language to understand and express themselves, and some community members have lost direct connections to Sámi history. These challenges prompted the authors to consider whether technology could serve as a bridge to reconnect these missing links—whether in the language used to communicate life experiences or in historical continuity. This perspective transcends the practical application of technology and aligns more closely with what Axell [5] describes as its symbolic value. Within the SDG's arts-based environment, technology has the potential to creatively merge with artistic practices to challenge and realize this symbolic value. A new conceptualization can also encourage people to question contemporary conceptions of technology, shape technology in an Indigenous way, and foster Indigenous autonomy.

The findings of this research are connected to a specific community where the cases originate, but they can also be applied to other Indigenous communities where technology can positively impact art communication. Additionally, technology within an art institution can serve as a platform for enhancing the technological experience.

Finally, the authors reflected on their own positions as non-Sámi facilitators and found that the role of an outsider is not set in stone. Through an analysis of different

dimensions of the key theme, sensitivity, they identified various indicators that also capture the relative nature of being an outsider. For instance, in the artist talk, the moderator was an outsider to Indigenous culture compared to the audience, whereas audience members may have been outsiders to the stories and artistic expressions of gender-based violence survivors. Each individual has different knowledge shaped by their unique experiences. Additionally, device use and space layout should be taken into consideration when building a more equitable environment. In this light, key questions arise when thinking about technology: How can the local community be engaged and brought into the spotlight to express their knowledge? How can an equitable environment be established to encourage individuals to adopt an outsider's mindset and learn from those with different identities? How can cross-cultural translation be facilitated? These questions could be examined in further explorations of these topics.

The limitations of this study are related to the scope of the research. The cases are specific to a single community and one art center, with a timeframe of approximately one and a half years. The authors approach the study from the perspective of non-Indigenous representatives working within an Indigenous community context. Additionally, feedback from the local community is primarily conveyed through verbal expression, which may limit their ability to articulate complex emotions. Future research will involve more voices from the local community and explore different methods to facilitate emotional expression. More venues, such as museums and art galleries, in global Indigenous communities can be involved in the future research.

IV. CONCLUSIONS

This research opens up an understanding of the dynamic relationship between the application of technology and the needs of local communities from multiple perspectives, such as the site specificity of SDG and the overlooked perspectives of Sámi women. Based on a deeper understanding of the needs of the Sámi community, this study proposes a new conceptualization of the design and application of technology.

While this study focuses on two specific projects, the insights gained could help other artistic practitioners better understand and engage with the Sámi community. This reimagining of technology may inspire artistic practitioners to explore new and significant themes related to the use of technology in artistic and community-based contexts.

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