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# Materializing Data: A Macramé-Inspired Framework for Evaluating the Effectiveness of Creative Participatory Research

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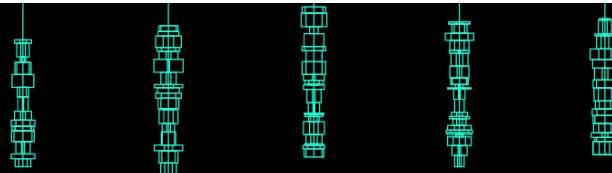
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## Abstract

This paper presents the development of a macramé-inspired framework for evaluating the effectiveness of creative participatory research (CPR), addressing gaps in conventional framework models that overlook the complex, multidimensional and experiential nature of these research approaches. The framework was designed to visualize and materialize the evolving nature of CPR, where participant engagement, contextual factors, and the sometimes organic and unpredictable creative activities shape both the research process and its outcomes. To achieve this, we worked with a group of experienced researchers with expertise in participatory textile-making methods in a series of three online workshops. Through these sessions, the research team explored the challenges of evaluating creative participatory approaches to research, critiqued existing evaluation framework models and developed potential alternatives before finalizing the proposed macramé-inspired framework prototype presented here. The resulting framework employs macramé components such as cords, interconnecting knots, and anchor points metaphorically to highlight different aspects of creative participatory research processes including the research context, participant engagement levels, project scope and duration, key research activities and participant interactions. In order to support robust evaluation of research effectiveness, we have devised question prompts to encourage shared reflection and discussion between researcher(s) and participants, rather than the one-sided assessment more usually offered by a set of fixed evaluation 'criteria', thereby shifting the focus from static metrics to embodied, experiential data. The prototype macramé framework presented here has the potential to be adapted to a diverse range of creative participatory projects beyond its origins in participatory textile-making. We anticipate it to be particularly useful for researchers and practitioners seeking evaluation models that highlight experiential knowledge, contextual nuance, and participant agency experienced 'live' in the unpredictable contexts of creative participatory research. Future research plans for this experimental prototype framework will include testing through case studies of real-life contextualized research settings.



*creative participatory research process; macramé framework; experiential knowledge; visualizing data; materializing data; research evaluation*

In recent years, the conceptualization of data in art and design research processes has evolved significantly, expanding beyond the more conventional representation of quantitative metrics to embrace qualitative, embodied, and experiential dimensions. In creative research contexts, data is increasingly seen not merely as an objective record but as a medium through which subjective experiences and complex narratives are expressed (Vervoort et al 2024). The research presented here is concerned with creative participatory research approaches that place making with others at the centre of research processes. These processes frequently foreground experiential knowledge arising from complex and ‘messy’ layers of context specific person-to-person interactions simultaneously with tactile engagement with materials, typically generating diverse forms of data for analysis and evaluation (Shercliff & Twigger Holroyd 2020). Such data is pertinent both for the research outcomes and the research process itself. Our research set out to address the challenge of developing an appropriate framework for materializing and visualizing infinitely variable data relating to creative participatory research processes and to support robust evaluation of the effectiveness of such research approaches.

The prototype of this innovative framework presented here experiments with the textile craft of macramé—a craft defined by its intricate and interconnected knotting techniques—as a visual and material metaphor to represent the complex and layered elements at play within creative participatory research processes. This framework proposes a tangible, adaptable model that illustrates how participants’ interactions and creative contributions interconnect to create the overall research structure to a project. Each element of the macramé metaphor—from the number of cords and type of knots to the dowel used for making and hanging the macramé artefact—represents specific stages and aspects of a creative participatory research project, allowing both researchers and participants to see their roles and relationships as part of a dynamic, interconnected network of activities.

Traditional evaluation models frequently struggle to capture the flexible, participant-driven nature of creative participatory research, where methods and outcomes are often shaped by the evolving contributions of participants. The macramé framework addresses this limitation by offering a model that is both material and metaphorical, capturing the fluid, unpredictable and sometimes iterative nature of these research processes to help to translate this experiential data into transferable knowledge. By making creative participatory research processes visible in this way, the framework advances a new prototype for evaluating the effectiveness of this research approach, where data is not simply documented but generated, expressed and shared through the act of making.

This paper introduces our experimental prototype of the macramé-based evaluation framework. First, we outline the inadequacies of existing evaluation frameworks to embrace the necessarily experiential and holistic overview of participant involvement in creative research processes. Next, we discuss how the framework was developed, before going on to present the framework and its application. Crucially, we draw attention to the temporal and changeable dimensions of these types of research projects and highlight the importance of



ongoing participant involvement in the evaluation process. The framework identifies 'evaluation prompts' at each stage to support a reflective and holistic approach to research evaluation, rather than the more conventional, one-sided, culminative assessment, indicating its potential to build methodological confidence in creative participatory research and enhance participant agency in this process.

## **Participatory Design and Creative Participatory Research**

Participatory design (PD) emphasizes the active inclusion of participants as co-creators, employing methods that promote shared decision-making and experiential engagement (Muller & Druin 2012). Within PD, the concept of a 'third space' has emerged as a site for collaboration and knowledge co-creation, where participants and researchers bring unique perspectives into a shared, co-constructed space (Bustamante Duarte et al 2019). This idea aligns with the needs of creative participatory research (CPR), where interactions between participants and researchers are dynamic, generating data and meaning through collaborative, often tactile, activities. These creative activities, where participants make things together using hands-on material engagement with physical tangible 'stuff', combined with the proclivity for CPR to incorporate the voices of the participants (often as co-designers of the research) creates multi-layered and multi-dimensional research that provides a challenging but fertile environment for generating data. CPR projects are inherently complex and nuanced, often involving several stakeholders/participants all with their own agendas, requirements, and ways of engaging (Wallerstein et al 2018).

## **Experiential Gaps in Evaluation Frameworks**

Representing these intertwining and often tangled elements is a difficult task. To date, several attempts have been made to provide structures to facilitate evaluation methods (Blackstone et al 2007; Wallerstein et al 2019; Vervoort et al 2024; Frauenberger et al 2015).

Blackstone et al's (2007) framework offers a structured method for evaluating participatory research, emphasizing components like bounding objectives, criteria, and analysis. However, its complexity makes it difficult to modify for a creative art or design context. Frameworks like the CBPR Conceptual Model, developed by Wallerstein et al (2019), provide structured pathways for research, emphasizing contexts, partnerships, and measurable outcomes. While effective for organizing research activities, these frameworks often overlook:

- The emergent and iterative nature of artistic making.
- The embodied, tactile experiences that drive creative processes.
- The subjective and emotional journeys of participants.

The CreaTures Framework (CreaTures, 2023) stands out for its focus on the value of creative practice, particularly its role in fostering social change. This framework demonstrates the importance of participatory and reflective methods in evaluating creative projects. However, its primary focus is on social change, which, while important, does not encompass the full breadth of CPR's potential. As a result, it underrepresents personal benefit, intra-subjective experiences and storytelling as critical components of CPR.

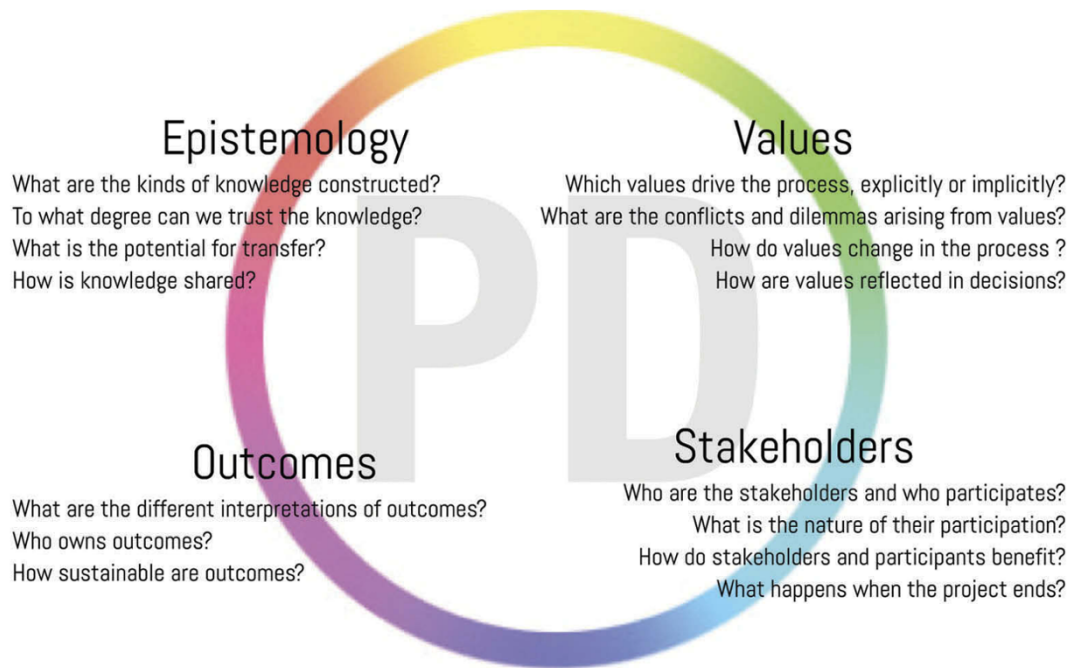
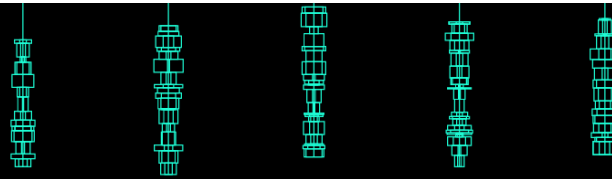


Figure 1 - Four Lenses Framework (Frauenberger et al 2015)

The Four Lenses Framework (Frauenberger et al 2015) (see figure 1) offers a participatory approach to research by examining four key areas: Epistemology, Values, Stakeholders and Outcomes. This framework aligns well with creative participatory making research, particularly in its acknowledgment of diverse knowledge systems and its emphasis on value-driven processes. The framework's focus on epistemology highlights the potential for diverse forms of knowledge to emerge, complementing the iterative and creative nature of participatory making research by explicitly addressing values. In addition, the framework encourages critical reflection on the ethical and motivational aspects of the research process. The questions offered by the framework are people-centric and offer a useful mechanism to gain more nuanced understandings. The framework, however, does not explicitly address the broader contextual or problem-based drivers that often underpin participatory making research. So, while it captures diverse knowledge systems and values, it lacks integration of artistic and embodied practices and consideration of participants' emotional and creative journeys during the process.

The prototype macramé framework presented here introduces textile craft as a metaphor to build on the strengths of these other frameworks whilst broadening the scope to include personal and intra-subjective dimensions, alongside considerations for how the experiential dimension of creative practices themselves are valued and captured.

## Why Macramé? Using Textile Metaphors in Research

Textile metaphors used to communicate complex concepts relating to social interaction are commonplace. Consider for example, the widespread use of the phrase 'the social fabric' used to describe the complexity of relations—human, technological, and institutional—that form our understanding of society. According to Lakoff and Johnson (2003), such a metaphor helps to structure the ordinary conceptual system of a culture and is reflected in everyday language. However, metaphor is not just a question of language. Human thought processes

are structured by metaphorical concepts grounded in experiential phenomena. Physical manifestations of these metaphorical concepts help to materialize the conceptual system without recourse to language, particularly where language may be ill-equipped to structure the complexity of information. The ancient Andean Quipus using strings of knots to record and embody information (Niles 2007) might be considered as such: a conceptual system materialized through an experiential, textile-based material metaphor, where coded language was insufficient. More recently, the ever-evolving Crochet Coral Reef project initiated by Christine Wertheim and Margaret Wertheim in 2006, materializes the highly complex mathematical concept of hyperbolic space using the textile craft of crochet (Wertheim n.d.).

Lakoff and Johnson go on to explain that imaginative and creative metaphors outside our conventional conceptual system 'are capable of giving us a new understanding of our experience' (2003, p. 139). This research proposes a 'new understanding' of the physicality and materiality of research processes, visualized and materialized as a textile metaphor, where 'an invitation to recognize the epistemological and ontological power of textile thinking' (Pérez-Bustos et al 2019) is used to document the diversity and complexity of participant involvement in creative participatory research.

The macramé model, in particular, serves as both a metaphor and a material representation of creative participatory research. Each element within macramé—from cords and knots to patterns—symbolizes stages of research, participant roles, and engagement levels. This framework aims to acknowledge the diversity and fluidity inherent in CPR, where participant contributions and insights continuously shape the project. As a result, macramé becomes more than a symbolic structure; it provides a way to physically and visually document and embody CPR's iterative, participant-centered nature.

## **The Project Methodology**

Three workshops were held over a period of two months with a group of nine researchers with significant expertise in creative participatory research approaches, primarily participatory textile-making. The research team, comprising active researchers within diverse disciplines from human-computer-interaction to sustainable fashion to international relations, was invited to contribute to the project bringing high-level insights, grounded in practical experience, to the framework development process. The range of expertise and experience across the research team of working in different contexts, both locally and internationally, ensured aspects such as participant characteristics and group size, ability and familiarity with creative activities, research intentions and methods were considered to allow for a nuanced understanding of participant involvement in creative research activities.

## **The Workshops**

The series of three iterative workshops were designed such that each workshop built upon the previous session's findings. The workshops were conducted online as participants were located across the UK as well as overseas. To capture the breadth of perspectives and foster a collaborative research environment, we used the collaborative software MIRO as an interactive digital whiteboard platform. Participants largely engaged in real time, although they were also invited to contribute asynchronously. MIRO allowed us to interact as a team,

or in small groups, visualizing and exchanging ideas as they evolved, as well as analysing the material towards the development and mock-up of the macramé framework prototype. The MIRO boards served as both a record of the workshop activities and a collaborative tool for refining concepts (see figure 2).

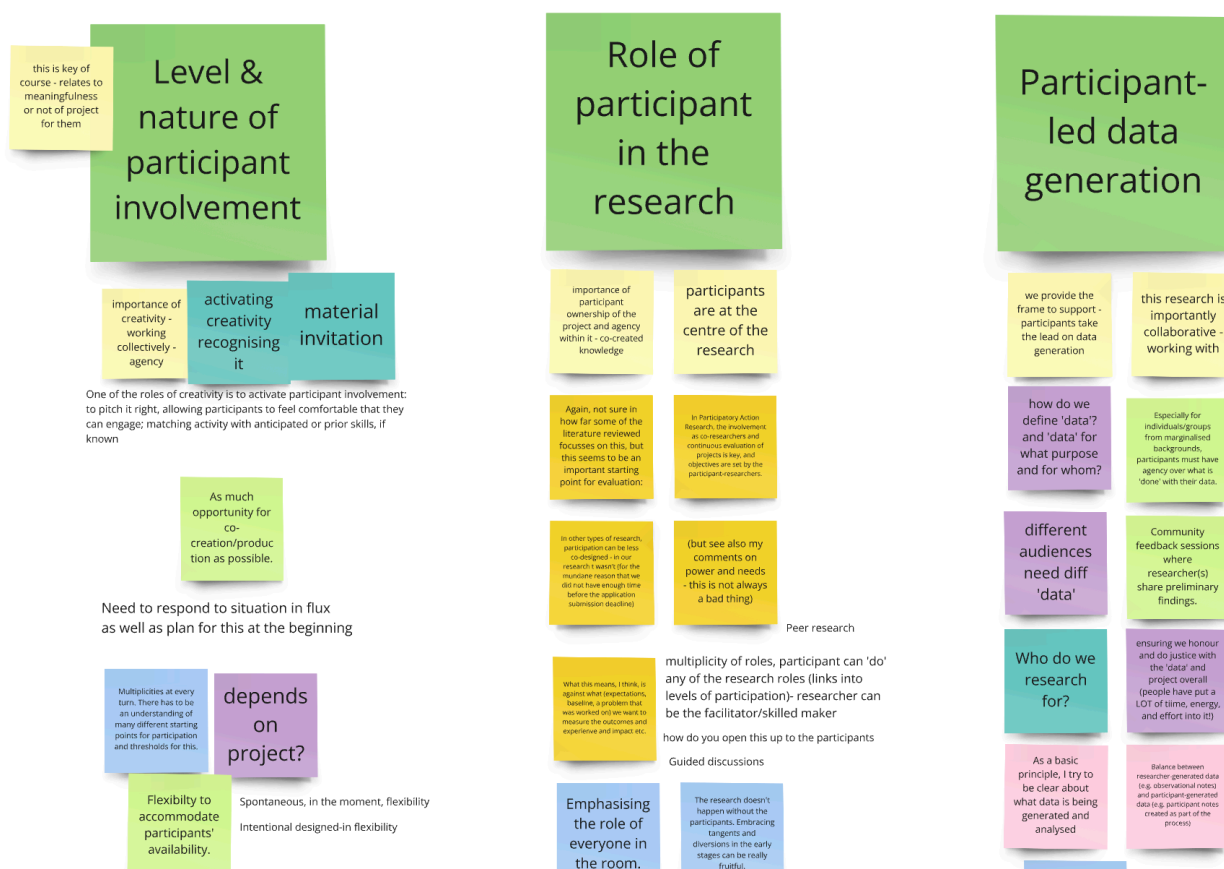


Figure 2: Detail extracted from the project MIRO board.

### Workshop One: Untangling the Questions

The first workshop explored the challenges of evaluating creative participatory approaches to research and invited the research team to consider foundational criteria for developing the framework. Using MIRO, participants shared insights on critical aspects such as: grappling with varied levels of participant engagement; relevance of the context where research takes place; participant-led data generation; varied foci of research questions; and the potential influence of power dynamics at play within the research setting. Discussions foregrounded the multidimensional aspects of participatory making highlighting the need to find ways to consider intangible as well as tangible data in the evaluation framework, for example: the importance of the evolution through time of these approaches; the experiential and tactile nature of the activities; the introduction and development of practical skills; social interaction and conversation; and the diverse forms of data generated (visual, aural, tactile as well as textual). It became clear that the framework would need to account for a certain degree of flexibility, participant agency, and an emphasis on embodied knowledge.



## Workshop Two: Structuring the Framework

Building on the insights gathered in Workshop One, the second workshop involved a critical analysis of existing frameworks used to evaluate various forms of participatory research (as discussed above), which then informed the conceptualization of our novel textile-based framework structure. The aim of this session was first, to identify how and why existing frameworks failed to capture the complexity of the multidimensional and intangible experiences of participant involvement in creative participatory research and second, to refine our evaluation framework's core components. Through breakout discussions and diagramming on MIRO, we devised a proposal for a framework structure that emphasized the importance of embodied knowledge and could potentially account for the necessary flexibility and participant agency inherent to the dynamic, layered interactions that define creative participatory research. Informed by our collective knowledge and experience of textile-making techniques and a conceptual understanding of textile-informed theory, the proposed framework structure was to take form as either knitting, macramé, or tapestry weaving. Other textile-making techniques were considered, such as braiding, crochet, and maypole weaving, but knitting, macramé, and tapestry weaving were preferred as they offered structural and construction concepts that responded better to a wider range of participatory research contexts.

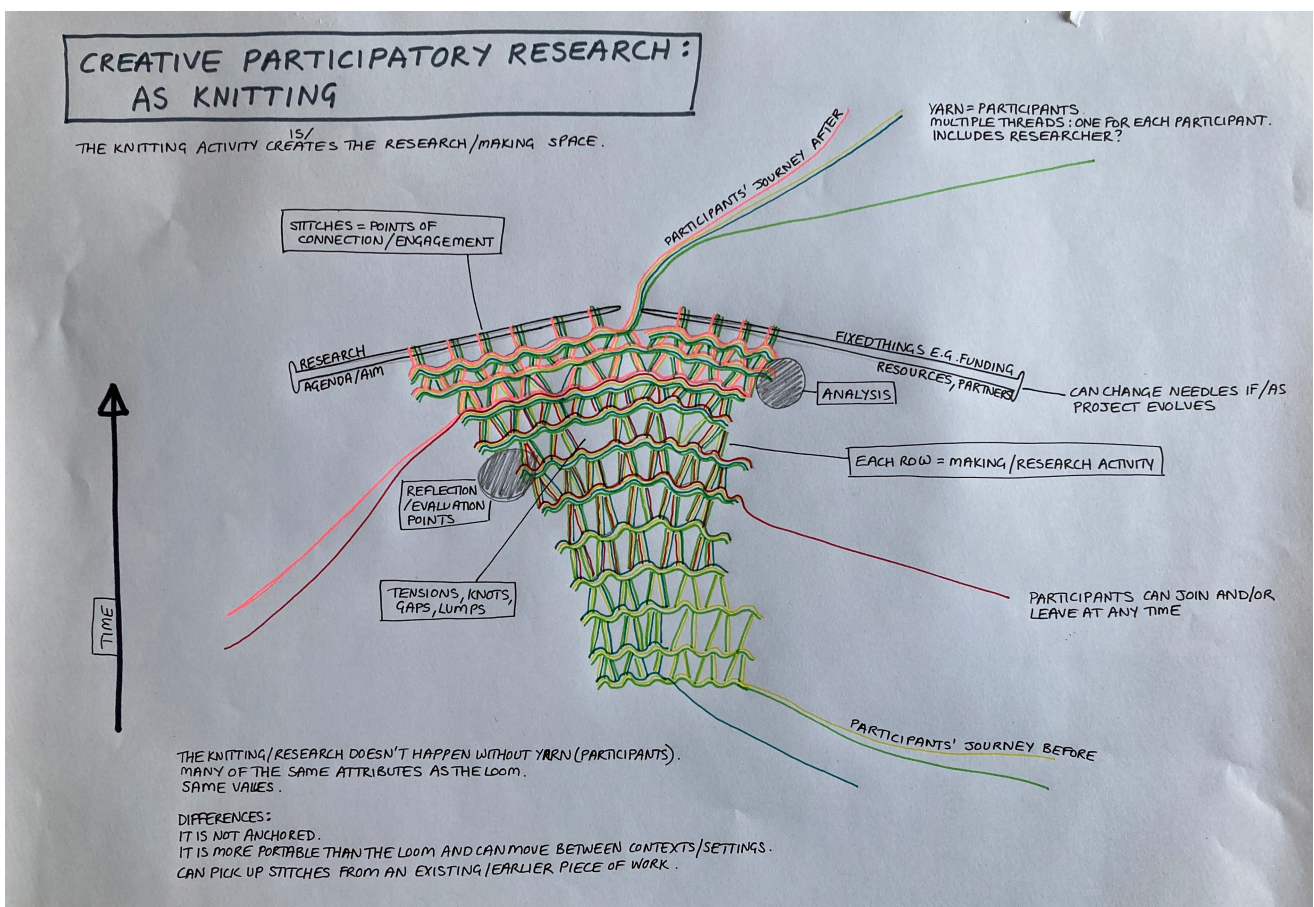


Figure 3: Sketch of proposed knitting concept for the CPR evaluation framework.



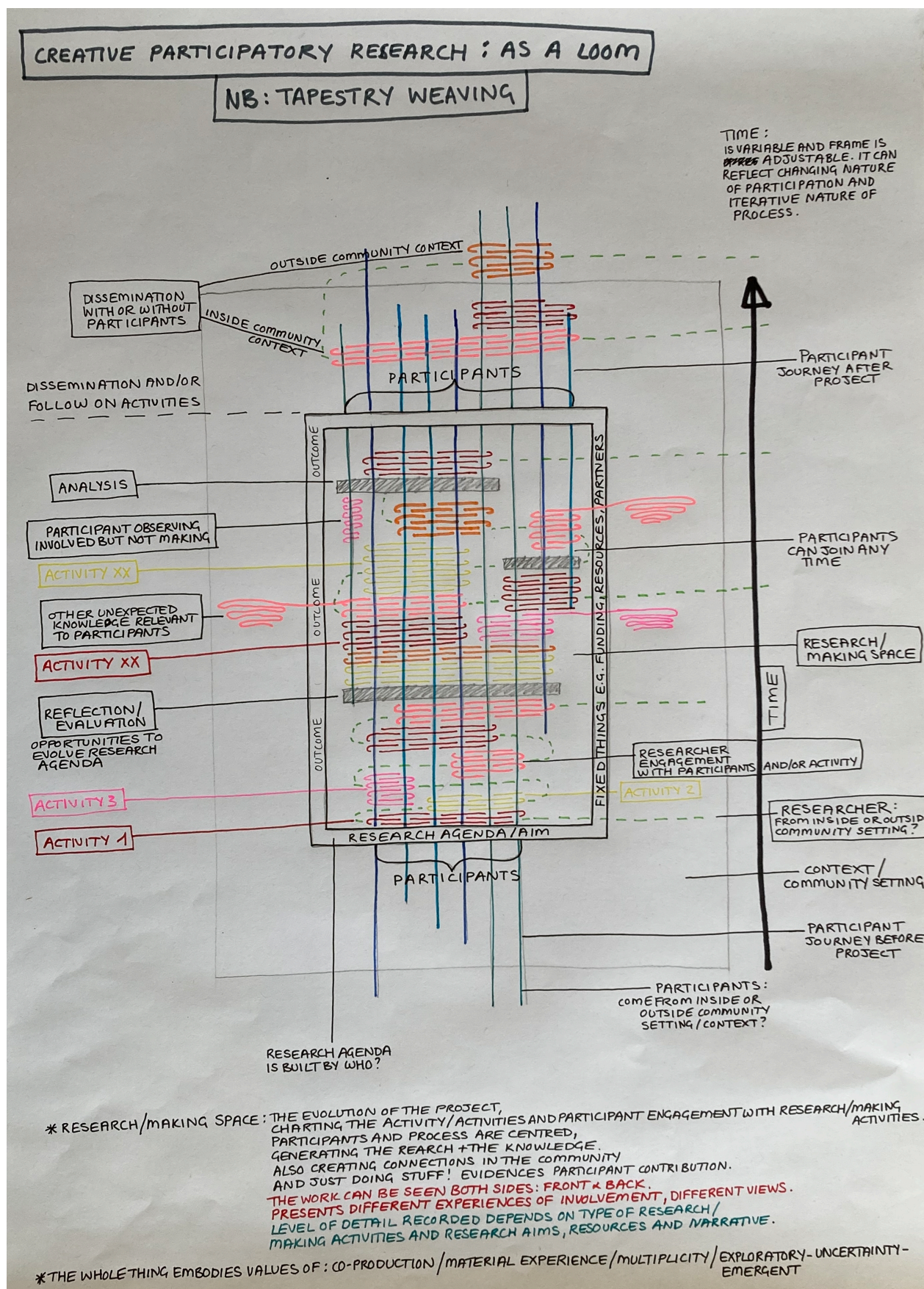


Figure 4: Sketch of proposed loom-based tapestry weaving concept for the CPR evaluation framework.



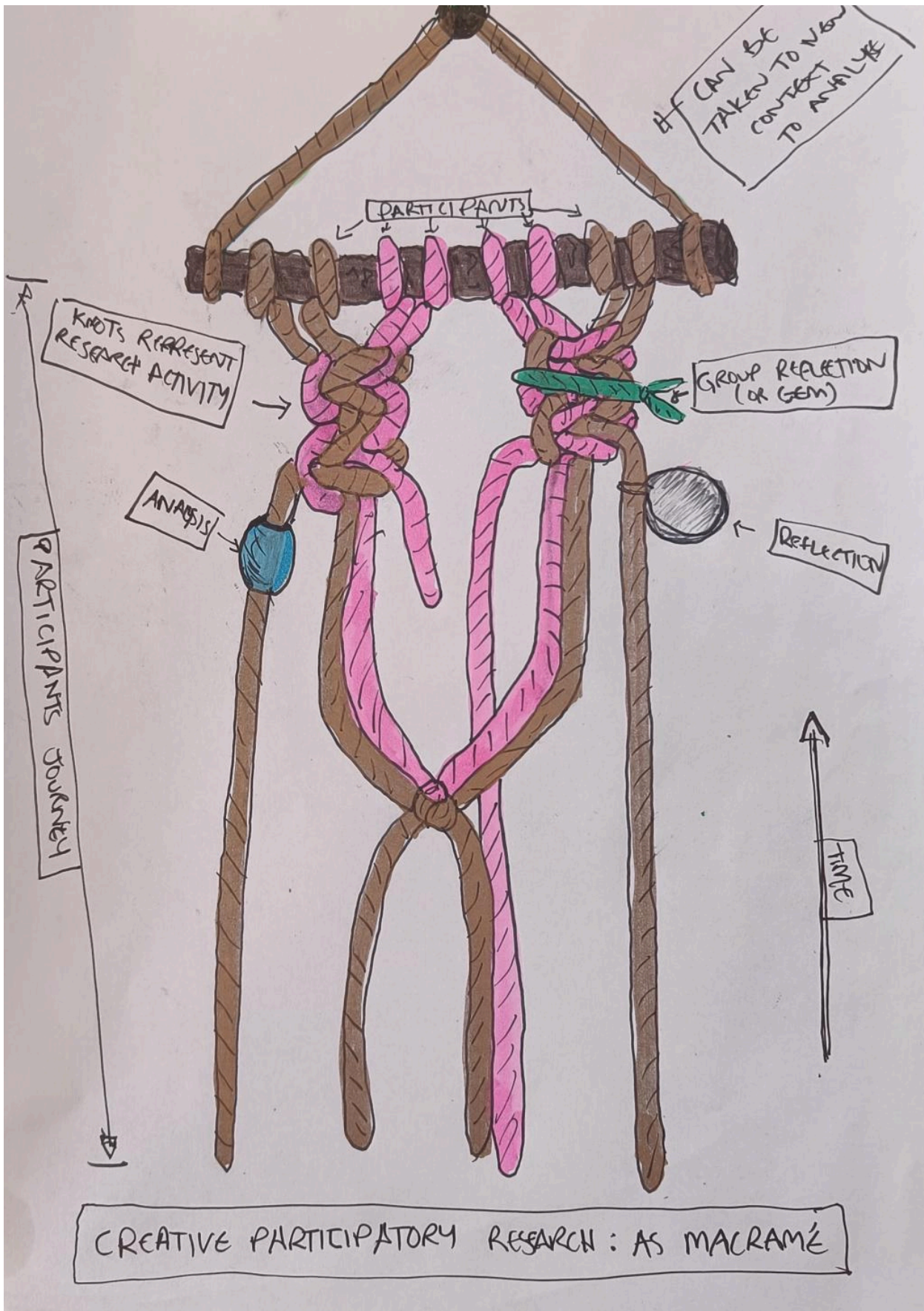
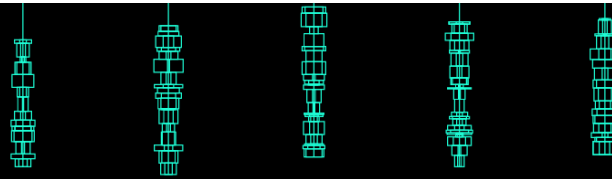


Figure 5: Sketch of proposed macramé concept for the CPR evaluation framework.



### *Workshop Three: Reviewing and Consolidating the Framework*

The three proposed framework concepts (see figures 3, 4 & 5) were presented at the final workshop for review and feedback from the research team. The aim of this session was to select and consolidate the proposed framework concept and finalize the draft 'evaluation prompts'. Participants considered how each textile element, as defined in the previous session, could represent different aspects of a creative participatory research approach. The session also explored the practical applications of the framework, including potential dissemination strategies and use cases for CPR evaluation. These discussions provided a strong foundation for us to later materialize the evaluation framework as a physical artefact and test the concept through practical modelling.

### **Modelling the Macramé-based Evaluation Framework**

The macramé-based design (see figure 5) was selected as it best reflected the proposed conceptual and metaphorical textile structure for the evaluation framework. Hand knitting (see figure 3), as with crochet, was interesting in that it offered ways to materialize the organic and temporal growth of a creative participatory research project but lacked necessary core structural elements to represent the research environment. Loom-based tapestry weaving (see figure 4) was considered visually compelling, offering ways to represent both the structural and organic aspects of these research approaches and had the potential to capture detailed aspects of the participant journey. However, the complexity associated with loom weaving was felt to suggest too formal a visual metaphor and potential barriers to accessibility. The more familiar interconnecting knotted structures of macramé on the other hand, suggested a balance of structural elements and organic growth potential as well as the flexibility to accommodate any number of participants/cords and size/scope of project/artefact.

The next step was to produce a physical macramé artefact to test the metaphor in practice and create a visual and material embodiment of a 'typical' creative participatory research project. First, a 'project design' was drawn out to use as a reference template (see figure 6) from which the macramé artefact was created.



## Participatory making project design with 15 participants

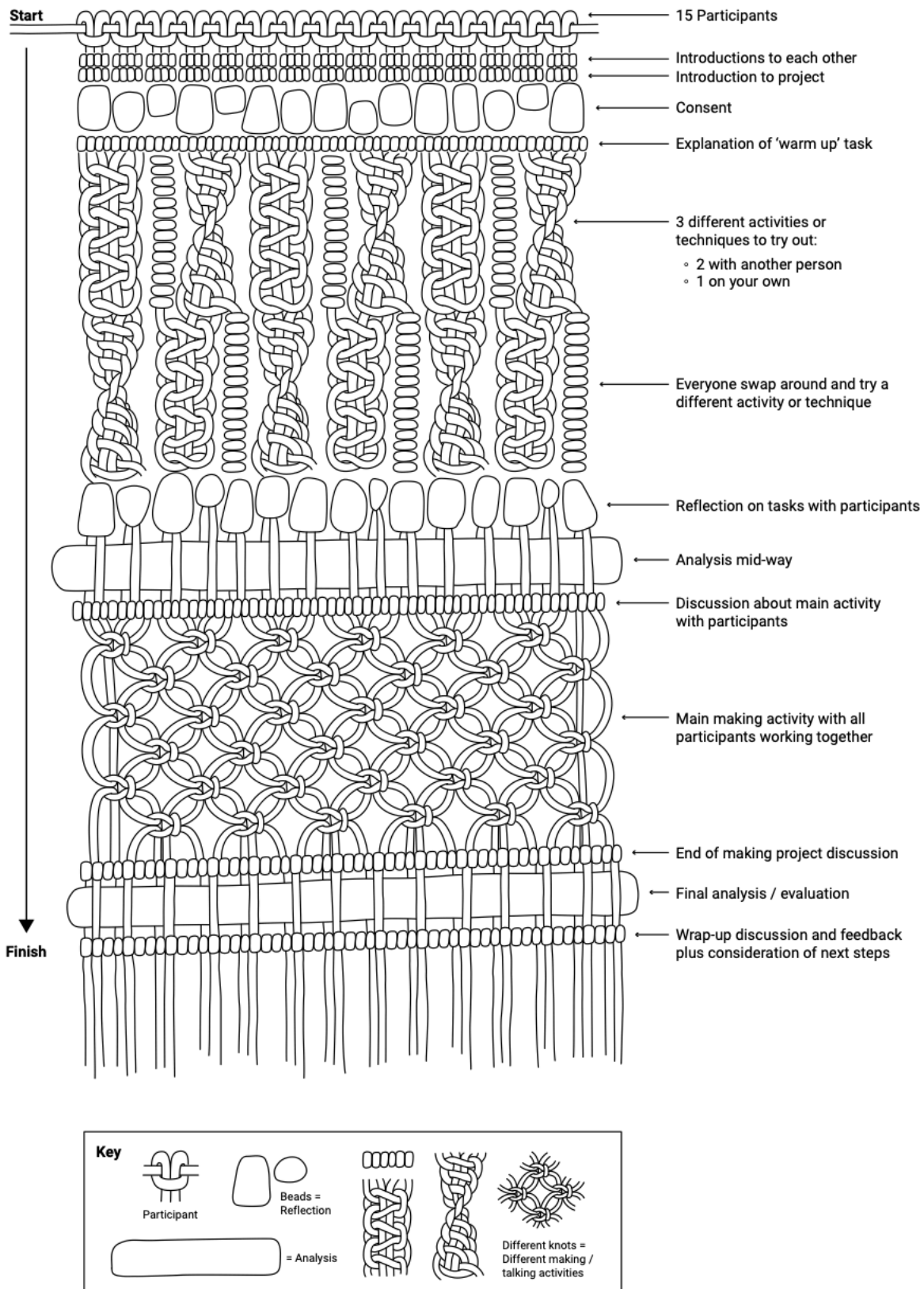
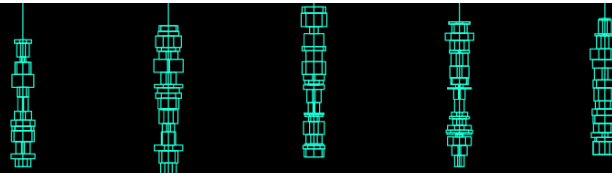


Figure 6: Creative participatory project design used as a reference template for the evaluation framework modelling.



The physical artefact, as a tangible representation of a notional creative participatory research project, incorporated the various elements identified as symbolizing the different aspects of CPR. As a material manifestation of the evaluation framework, it is both a research output and a tool for demonstrating the framework's structure and applicability (see figure 7).

## The Framework

The macramé-based evaluation framework embodies the multi-dimensional nature of creative participatory research approaches (Twigger Holroyd & Shercliff 2023), offering researchers the means to document and evaluate these complex participatory processes. The framework functions both as a tangible, visual representation of a participatory research project and as a guide for reflective reporting. First and foremost, it illustrates the temporal dimension of such multi-stranded projects and visually demonstrates the dynamics between participants, researcher(s) and research activities.

### How to use the framework

Each component of the macramé artefact corresponds to specific aspects of the research process, offering a nuanced way to chart and capture the participant dynamics, project evolution, and contextual influences. Each aspect is outlined with a brief description as it corresponds to elements of the macramé artefact and the participatory research process. In order to support robust evaluation of research effectiveness, and in recognition of the often unpredictable nature of this research approach and the generative nature of the research process, we have devised prompts for reflection and discussion rather than attaching specific evaluation criteria to each stage. It is hoped these 'evaluation prompts' will encourage shared reflection between researcher(s) and participants, where appropriate, in order to facilitate a mutually agreed evaluation of the embodied experience of participation, rather than the one-sided assessment more usually offered by a set of fixed evaluation 'criteria'. What follows is a descriptive guide to using the macramé-inspired evaluation framework.

### The Anchor Point: Grounding Context and Community

The anchor point represents the foundational context of a project, including the geographical and cultural settings in which the research takes place and the community that is taking part. It highlights the particular specificity of a project, literally anchoring the macramé artefact and metaphorically grounding the research project. Echoing the set-up technique for macramé, whereby the anchor point is fixed in a certain place for the duration of the making of the artefact that once complete can be moved to a different location, the anchor point of the framework underscores that the CPR project hangs from a contextual foundation but is portable and can be adapted or showcased in new settings as needed, for example, for dissemination purposes.

Evaluation prompts encourage reflection on the relationships between participants, context, researcher(s), and the creative participatory making activity:

- *What is the relationship of participants to the context?*
- *How do the researcher, research agenda, funders, and outcomes relate to this context?*
- *Who is involved in dissemination, and where does it take place?*

## **Hanging Cords: Adapting Resources**

The hanging cords signify the initial set-up resources (such as funding or in-kind partner support) that enable the research to take place. These cords may be adjusted as the project progresses, reflecting any changes to resources which may impact the scope of the research. As above, this adaptability supports a responsive research process, where resources are adapted to meet the evolving requirements of the project, or indeed, vice-versa, where the project may evolve to adapt to a change in resources.

Evaluation prompts encourage reflection on the impact of resources and access to resources on the overall management of the project:

- *How do resources influence project structure and participant involvement?*
- *Are resources collaboratively managed, or are they controlled by a specific group?*

## **The Dowel: Shaping the Research Agenda**

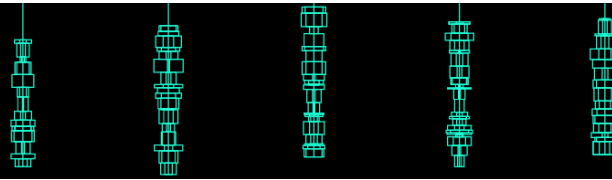
The dowel in the macramé structure represents the research agenda. A dowel used for such purposes in making a macramé artefact is not required to be of fixed dimensions, can be acquired specifically for the project or could be conveniently found on location, and can even be replaced if necessary. Metaphorically, the dowel's variability reflects whether a research agenda is set in advance or is adapted for the project, determined collaboratively by participants, researchers, and potentially partners. This structure allows for a responsive approach, whereby the agenda can be borrowed, improvised, or even reinvented based on the resources available and potential changes that emerge through the research process.

Evaluation prompts encourage reflection on the external factors that may influence participant involvement, scale, and scope of the project:

- *Who is involved in setting the research agenda?*
- *What factors influence the agenda (e.g. funding, resources, participant group size)?*
- *What power dynamics are evident between participants, researchers, funders, and partners?*

## **Cords: Reflecting Diversity and Participant Engagement**

The cords used to make the macramé are fundamental to the shape, texture, and resulting material qualities of the artefact. Reading across to a creative participatory research project, these cords represent the individual participants and researcher(s) involved. Each brings their unique experiences and perspectives, fundamentally shaping the 'texture' of the project. Variations in colour, texture, and thickness of the cords symbolize diversity within the



participant group. Throughout the project, as participants join, leave, or become inactive, cords are added, left to hang or cut off. Both active and inactive participation is integrated into the overall project pattern and the macramé structure dynamically changes, creating a visual map of participant engagement over time. This element acknowledges the potential variability in participation levels and the contributions of individuals at different stages.

Evaluation prompts encourage reflection on participant engagement in the project through its duration:

- *Has there been equitable involvement from all participants?*
- *How do different participant skills and experiences shape their engagement?*
- *What can be inferred about participant journeys through the project?*

### **Cord Length: Design and Scope of Participation**

Cord length varies based on the intended nature of participant involvement, reflecting how the project's design accommodates different types of engagement, i.e. 'closed' or 'open' participation; one lengthy, in-depth activity; or multiple, shorter, consecutive activities. Calculating this is not an exact science and there should be space and time left at the end for contingency or for adding extra (fringe) activities or decorative endings.

Evaluation prompts encourage reflection on the different types of participant engagement offered within the project and the extent to which this project design enables effective research enquiry:

- *At what level and frequency are participants involved in each activity and stage?*
- *How effective has the design of participant involvement been in pursuit of the research aims and objectives?*

### **Knots: Marking Key Activities and Participant Interaction**

Knots represent the various research activities and interactions within the research project. Different types of knots reflect the varied complexity of tasks, with some involving multiple cords (indicating collaborative activities) and others focused on interactions between specific participants. The density of knots in particular areas signify periods of intense research activity.

Evaluation prompts encourage researcher(s) to reflect on the type of research activity, the level of participant involvement in each activity and how participants interact with each other as well as how the activities generate research data:

- *What sort of activities are participants involved in?*
- *How does the activity represent participant involvement?*
- *Is the activity iterative, and does it feed back into the research process?*

## **Beads: Points of Reflection and Analysis**

Beads within the macramé structure denote pauses for reflection and analysis. These points may be intentionally designed to occur at certain stages of the project or may occur organically at improvised moments, initiated by either participants or researcher(s), or both. These points can involve individual, paired, or group reflections—with or without the researcher(s) present—providing opportunities to assess progress and decide on next steps.

Evaluation prompts encourage researcher(s) to consider how these points for reflection influence the development of the research:

- *At what stage do reflection points occur, and who is involved?*
- *How do these reflections shape subsequent project steps?*

## **Pattern: Visualizing Process and Emerging Themes**

The overall pattern of the macramé artefact serves as a visual record of the research project, documenting participatory themes and styles of interaction. The pattern reflects the co-constructed journey of the participatory research process, illustrating how participants' contributions shape the research in real time. The macramé artefact as a tangible output serves as both documentation and an invitation for reflection.

Evaluation prompts encourage researcher(s) to consider not just how analysis of the project data is undertaken, but also who is involved in that process:

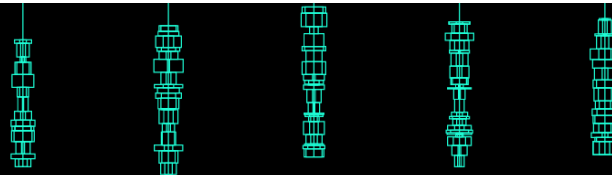
- *Who is responsible for analyzing the research data?*
- *How is this analysis shared with participants, if at all?*

## **Time: Capturing Project Duration and Evolution**

The duration of a project may vary from a short 'drop-in' event involving many participants to a longer, sustained enquiry involving fewer participants over several months, sometimes years. The timeline for the project might be determined from the outset or could be adjusted during the project (by shortening or extending the cords). Representing this temporal dimension of creative participatory research activities, the length of the macramé artefact expands through the duration of the project, moving chronologically from top (oldest activities) to bottom (most recent activities). Dense knots may compress time, indicating intensive periods of research activity. This ability to visualize the shape of the research through the duration of the project highlights the changeable and iterative nature of the creative participatory processes and provides a visual narrative of the project's progression.

Evaluation prompts encourage reflection on the evolution of the project as a whole, including aspects relating to the interactions between researcher(s) and participants, the acquisition of skills, and the contribution of participants to the research:

- *How has the project evolved over time?*
- *How has the relationship between participants and researcher(s) developed through the project?*



- *How does the project evidence mutual learning and shared contributions?*

## Tensions, Gaps, and Loose Threads: Acknowledging Challenges

The macramé's loose threads and imperfections are a deliberate acknowledgment of the inherent challenges within a creative participatory research process. Tensions, gaps, loose threads, and misaligned knots reflect the 'messiness' of real-world research, where unresolved issues or tricky confrontations may arise.

Evaluation prompts encourage reflection on what these imperfect elements can help us to learn from the difficulties encountered:

- *What challenges emerged, and what can be learned from them?*

## Implications, applications and limitations

The experimental macramé-based evaluation framework prototype (see figure 7) developed through this research offers a unique contribution to the field of creative participatory research, providing both a practical guide for evaluating the effectiveness of CPR and a metaphor for understanding the nuanced, layered and interconnected processes that define it. Unlike more conventional frameworks, which lean towards standardization of research process, the macramé model emphasizes the individuality of the participant journey through the duration of a project helping to capture the iterative, non-linear, and often unpredictable nature of these projects.

Building on emerging methodological frameworks such as the Four Lenses Framework (Frauenberger et al 2015) and the CreaTures Project's 9 Dimensions (Vervoort et al 2024), the macramé framework also addresses the often-overlooked experiential and material dimensions of CPR, where the act of making itself becomes an integral part of data generation and knowledge creation. By visualizing and materializing participant contributions, the framework can provide a format that values experiential knowledge and allows for a nuanced, 'living' record of the research, one that can evolve alongside the project.

The development of the macramé-based framework was influenced by the team's research experience in participatory textile-making. However, its flexibility and adaptability make it well-suited for a variety of CPR contexts, from community-driven arts initiatives using other artistic practices to interdisciplinary research projects involving diverse participant groups. It has the potential for application across disciplines where participant-led data and experiential knowledge play a role and where capturing the complexity of process as well as the outcomes is important in providing a holistic view of participant experiences. By allowing participants and researchers to co-create the framework, it offers the opportunity for participants to explicitly shape the research narrative. The evaluation question prompts encourage reflective reporting rather than narrow responses to rigid evaluation criteria. By making the process itself visible, the macramé-based evaluation framework, therefore, proposes an inclusive, 'followable' structure that researchers can tailor to fit the specific needs of their projects and participants.

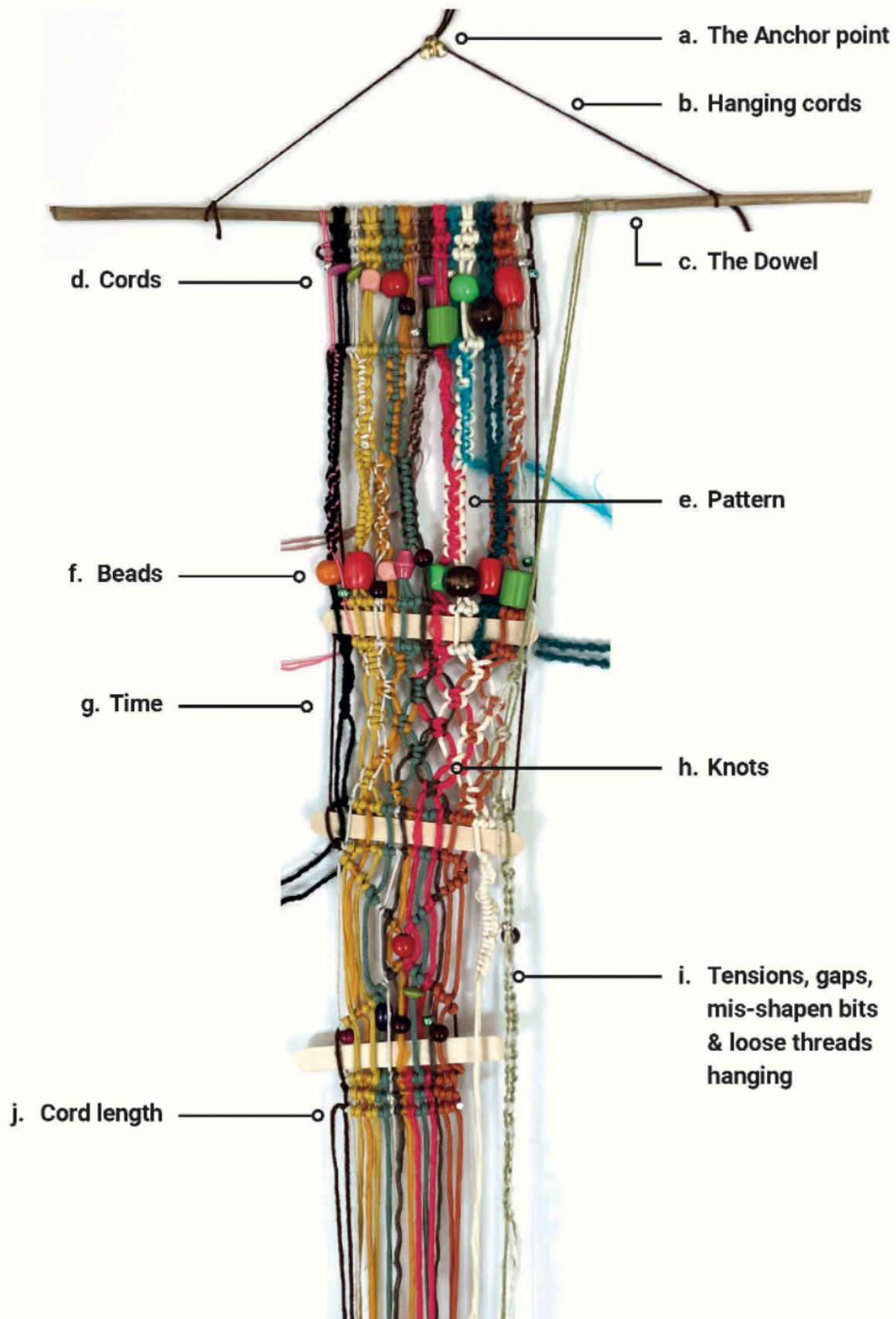
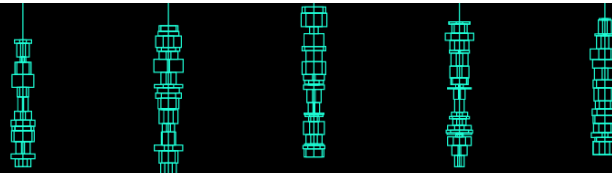


Figure 7: Macramé artefact created to embody and materialize research process data and inform the framework for evaluating the effectiveness of creative participatory research approaches.





While the macramé framework presents a flexible and holistic model for evaluating CPR, it is not without limitations. One challenge lies in the potential barriers to implementing the framework across diverse CPR contexts. Although the evaluation prompt questions are readily transferable to a wide variety of CPR contexts, as a visual and material-based model, constructed using and interpreted through textile techniques, the framework requires a degree of familiarity with textile-making skills and metaphors, which may not be intuitive for all researchers or participants. Additionally, the interpretive nature of the framework's elements—such as cords representing participant journeys or knots indicating particular research activities—requires careful facilitation and researcher reflexivity (Kara 2018) to ensure that participants' contributions are accurately and respectfully documented. As with any participatory framework, attention must be given to the potential of the power dynamics within the group to influence how these elements are documented, interpreted, and analyzed.

## Reflections on Future Directions

The prototype macramé-based evaluation framework as presented here emerged from a series of pilot workshops and would now benefit from being applied in order to test the real-world performance of the metaphors outlined above. Future research plans for this experimental prototype framework will include empirical testing through case studies of real-life contextualized research settings. This paper outlines the research that has led us to this point and provides us with an opportunity to reflect on the questions this process has raised for the research. As creative participatory research approaches continue to mature, this prototype framework can serve as a starting point for further exploration and adaptation across diverse research contexts, potentially generating a multiplicity of macramé models that help to test and refine its methodological intentions.

The macramé model is handcrafted, which reflects and represents the unique idiosyncrasies of participants' journeys through creative participatory research projects but relies on a textile skills-based understanding of the model and its creation. Scaling up the framework as a more widely transferable tool may potentially necessitate the development of a digital modelling tool which could also support remote-only, asynchronous, or digital CPR projects. This presents the ambitious challenge of digitally materializing cords and knots that maintain the sensory and experiential qualities of the physical macramé structure.

Whilst the usefulness of these further iterations towards strengthening methodological confidence in the effectiveness of these 'messy' participatory research processes is clear, it also provokes us to consider what might be lost in translation. As these intensely spontaneous, experiential moments of discovery move through material and visual research data models, and are potentially transformed through digital data modelling tools, what might this mean for the representation of participatory research data?

## Acknowledgements

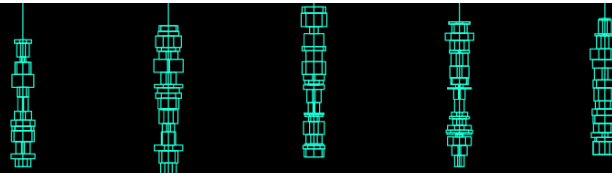
We are very grateful to all the contributors for the experience, expertise, and insights they have brought to this project: Professor Berit Bliesemann de Guevara; Professor Fiona Hackney; Dr Chinelo L. Njaka; Dr Eliana Sánchez-Aldana; Dr Angelika Strohmayer; Dr Amy



Twigger Holroyd; and Dr Claire Wellesley-Smith. We are grateful to the Arts University Bournemouth for funding and supporting this work through the Research England Participatory Research Fund. And we are grateful to Laura Walker, who designed the visual assets of the macramé evaluation framework used in this paper.

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### Emma Shercliff

Dr Emma Shercliff is Associate Professor of Textiles and Participatory Making at the Arts University Bournemouth. With over 20 years' experience devising, participating in, and leading creative workshops with various participants, she has developed a focus on creative participatory research methodologies and participatory approaches to design, making cultural engagement applicable to wider cross- and interdisciplinary research, knowledge exchange, and consultancy settings. She is co-founder of the Stitching Together research network, which brings together researchers, professional textile practitioners, project commissioners, and enthusiast textile maker groups to foster critical dialogue around participatory textile making in research and practice. Emma is a peer reviewer for various academic journals and co-editor of the *Journal of Arts and Communities*. Her current research addresses the development of evaluation frameworks and impact assessment toolkits for creative participatory making activities in research contexts.

### Asha Ward

Dr Asha Ward's work involves participatory design of novel interactive systems. She is a qualitative researcher who enjoys co-designing for and with participants. Her research background has traditionally been in music technology and the creation of bespoke controllers for musical expression. However, in her current role as post-doctoral researcher at the Arts University Bournemouth, she also designs systems that include multimedia elements and enjoys working on projects that add to the discourse around methodologies used for different types of inclusive research.

### Berit Bliesemann de Guevara

Berit Bliesemann de Guevara, PhD, is an embroiderer and a professor of International Politics at Aberystwyth University Wales, with a keen interest in establishing participatory, creative, and textile methods more firmly within her discipline's methodological 'sewing box'. Together with Colombian colleagues at the University of Antioquia, Medellin, she has developed "(Un-)Stitching Gazes", a textile narrative and textile resonances method to foster diverse social dialogue for peace and social justice in and beyond Colombia.

### **Fiona Hackney**

Fiona is Professor of Fashion Cultures at the Manchester Metropolitan University, UK. Her research focuses on sustainability, memory, and identity in dress, slow fashion, (quiet) activism, material methods, crafts, heritage, creative making and wellbeing (well-making), twentieth-century print media and magazines, co-creation, participatory research methods, and social design. Recent publications include the book chapter 'Well-making, Worlding, Workshops and Wardrobes: Caring through Clothing and Textiles', which is co-written with Mah Rana and appears in the *Routledge* series *Design Research for Change*, as well as co-written articles on sustainability and dress in the journals *Sustainability* and *Material Culture*. She has led many Arts and Humanities Research Council (AHRC)-funded projects, most recently as Principal Lead for a NWCDTP doctoral studentship on remaking masculinity through Indian heritage dress, and Co-Investigator for S4S: Designing a Sensibility for Sustainable Clothing Choices, which explores the value of co-creative making and reflection for pro-environmental behavior change.

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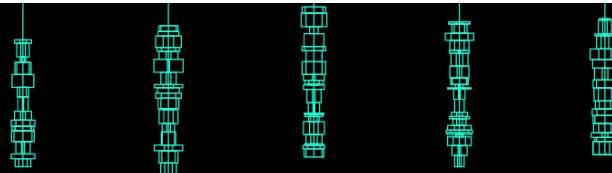
Chinelo L. Njaka, Ph.D. (she/her/hers) is a sociologist and textile and fiber artist. She is the Founder and Director of Peckham Rights!, a non-profit human rights and creative activism organization in southeast London. She is also a founding member of the Equity Advisory Council at the Crafts Council. Dr. Njaka's research encompasses intersectional studies, visual sociology, and comparative race analysis, focusing on systemic racisms, intersectional anti-racism advocacy, and the dynamics of race and racism in craft and creative spaces. Her work embraces global perspectives across the Black Atlantic, exploring diverse Black identities and experiences, with a specific emphasis on contemporary Black quilting and broader textile arts in the US and UK.

### **Eliana Sánchez-Aldana**

Eliana Sánchez-Aldana is a mestizo woman from Colombia with a deep-rooted practice in weaving, combining textile-making with academic insight. She is a designer and holds a PhD in Social and Human Sciences. Her research interests intertwine textile studies, technofeminism, feminism, and diseños del Sur, embracing a creative and collaborative approach to practice-based research. She both makes and studies textiles, viewing them as ecologies with unique world-making practices that can shape design. She is an Associate Professor in the Faculty of Architecture and Design at the Universidad de los Andes, Colombia.

### **Angelika Strohmayer**

Dr Angelika Strohmayer is an interdisciplinary researcher and assistant professor at Northumbria University's School of Design, Arts, and Creative Industries. Her expertise lies in collaborative making for social justice, often focusing on how craft artefacts and their process of being made can help us to understand lived experience in alternative ways and shape practice and policy. She often works



directly with people with lived and learned experience as well as frontline staff, organizational change-makers, commissioners, policymakers, and others involved in improving systems for people who are in vulnerable or marginalized situations. Her current work conceptually explores shared practices of hope, focusing on in-the-world issues related to improving services and wellbeing and solidarity among women facing multiple disadvantages. She is co-director of the Design Feminisms Research Group and the Gendered Violence and Abuse Interdisciplinary Research Theme at Northumbria University.

### **Amy Twigger Holroyd**

Dr Amy Twigger Holroyd is Associate Professor of Fashion and Sustainability at Nottingham School of Art & Design. Her international participatory project, Fashion Fictions, brings people together to generate, experience, and reflect on engaging fictional visions of alternative fashion cultures and systems. Other initiatives include the research network Stitching Together, which Amy led with Dr Emma Shercliff, and Reknit Revolution, a project supporting knitters to rework the items in their wardrobes. Amy has authored and edited several books, including her monograph Folk Fashion: Understanding Homemade Clothes (I.B. Tauris, 2017) and the co-authored Historical Perspectives on Sustainable Fashion: Inspiration for Change (Bloomsbury, 2023). Amy was awarded the Philip Leverhulme Prize for Visual and Performing Arts in 2024.

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Dr Claire Wellesley-Smith is an artist and researcher based in Bradford, West Yorkshire. Her projects are situated within heritage and community health contexts. The ability of textile to transform and connect over time informs her studio, curatorial, and research practices. Her projects are long-term engagements alongside communities living in former areas of industrial textile production in the UK and Europe. Her recent postdoctoral fellowship, Crafting Resilience, was supported by the Economic and Social Research Council. She is currently a Visiting Fellow in Geography and Environmental Studies at The Open University.