

International Association of Societies of Design Research Congress 2023 **LIFE-CHANGING DESIGN**

Politecnico di Milano 9-13 October 2023

The Ripple Framework: a co-design platform (a thousand tiny methodologies)

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doi.org/10.21606/iasdr.2023.417

The Covid-19 pandemic highlighted long-standing issues in the healthcare sector in the UK, including difficulties in retaining and recruiting staff. These are complex and interconnected problems, making them difficult to solve. We identify this as a methodological challenge that needs to be addressed. We illustrate a potential way of achieving this through the Healthier Working Lives (HWL) research initiative funded by the Healthy Ageing Challenge, Social, Behavioural and Design Research Programme (SBDRP). The SBDRP is an interdisciplinary, intersectorial programme, aiming to find ways of improving working conditions for care workers. The HWL study took place in 6 care homes in Scotland, with 31 participants, of which 25 were frontline staff, and 6 were in administrative and managerial roles. We acknowledged the complexity of these issues and sought to support care workers by developing a flexible response able to adapt to their precarious circumstances. By reflectively engaging with a set of care homes across Scotland, and learning about their circumstances, the project has the potential to bring about a fundamental rethink regarding optimal strategies for supporting the care sector in overcoming its difficulties. Our own attempt at this resulted in the Ripple Framework (RF), a methodological platform to assist both the research team and care workers in working together meaningfully. The RF allows researchers and care workers to become actively immersed in the context and restore their agency to speak out and act within their social setting. The RF emphasises dialogue, capacity-building, and empowerment, suggesting its potential to be applied beyond the healthcare sector.

Keywords: co-design; participatory design; care; complexity

1 Introduction

The aftermath of the Covid 19 pandemic brought to the surface an unprecedented set of complexities in social care. Specifically, there is a recruitment and retention crisis of care workers (Bailey, 2021), which raises relevant obstacles and requires context-specific action. For instance, a key challenge is age-related, with the sector in Scotland including 44% of workers aged over 45 (The Scottish Government 2022). This crisis emerges intertwined with the energy and cost of living crises in the UK, making it a complex issue, or 'wicked problem', perceived as an entangled sociotechnical system which is producing a problematic effect (Rittel & Webber, 1974). On the grounds of this complexity, we ask



how can Design (Jonas, 2015) support the development of reconfigured complexities as responses to address those challenges? Can we define these responses as 'wicked solutions', rather than perpetuating the myth of neat 'Hollywood endings' and the determinism of the problem-solution paradigm (Kettley et al., 2016)? These are not easy questions to address, and potentially call for new research tools and methodologies that can enable more specific and flexible forms of engagement and action with particular groups, such as the care workers, entrepreneurs, regulators, and policymakers of the HWL project, whom we define from now onward as co-designers.

Moving forward, we contest that new constructs are needed to help the design community to interpret everyday discourses alongside practitioners and the constellation of actors committed to navigating complexity. Stolterman (2008) says that it is possible to "predict the potential success of new approaches, methods, and tools based on how designerly they are" (p.56). This statement is very relevant and encouraging to us, because the construct we present – The Ripple Framework – was largely developed from a perspective like the one suggested by Godman et al., which encompasses four critical steps, i.e.: Descriptive, Explanatory, Generative and Critical/Reflexive (2011, p.1068). These are critical steps to help find ways out of the fuzziness of the ontological world, which is markedly uncertain and complex. By investing the tool with a large degree of flexibility to move in different directions it may contribute where some forms of codesign are being critiqued for falling short, providing "a mode of validation or self-reflection" (idem).

2 The Ripple Framework (RF)

In an attempt to address this methodological challenge and overcome the uncertainty that the care sector faces, the Ripple Framework (RF) (Figs. 1) was developed to provide methodological elasticity. The framework was designed to present a sequence of concentric ripples, each of them corresponding to a method/activity with increasing levels of complexity and engagement, as we move from centre to periphery. These ripples were divided into six segments or slices (see also Fig. 3), each of them with its respective colour to help the co-design team define a sequence of activities and develop a co-design pathway for each of the care homes.

The framework was developed to allow scenario planning for undertaking co-design with care homes during the Covid-19 lockdowns in the UK. The lockdowns presented only the latest in a range of potential barriers to doing co-design effectively with frontline care staff, and we expected access to homes to be extremely unpredictable and difficult. Pre-existing sector factors included: the diversity of the care home sector in Scotland, which includes small privately run homes, large corporate businesses with multiple sites, state funded beds, and rural and urban locations; uneven levels of use of digital technology, and even access to Wi-Fi; remote locations; and the precarity of the home environment which sees small communities dealing with sudden and impactful emotional events, such as the death of a long term resident. Even following mandatory lockdown, care homes often imposed their own restrictions on visitor access to sites to manage risk to residents and staff. In addition, the normative approach of co-design and service design, which requires the collective engagement of different stakeholders, is difficult to achieve in this type of workplace culture, where staff must be constantly responsive to resident needs, are typically paid hourly, and where staffing levels are under acute pressure. Teams of different specialisms work together and cannot be away from post at the same time. Therefore, instead of presenting a one-size fits all approach to co-design for different

participating homes, we saw the need for an approach that would be highly responsive and which would be able to offer bespoke programmes of engagement according to each local situation. The framework was iterated by the co-design team (the first and second authors), but for the reasons given was not co-designed with the care homes. Rather, it was trialled and reflected upon throughout the lifetime of the HWL project, and should be developed further through use. The intention was to provide co-design participants, including research ethnographers, care employees, and designers in the first instance with ways to explore alternative forms of action, and through these to establish strong bonds and develop trust (Dibben, 2000; Marsh & Meech, 2000).

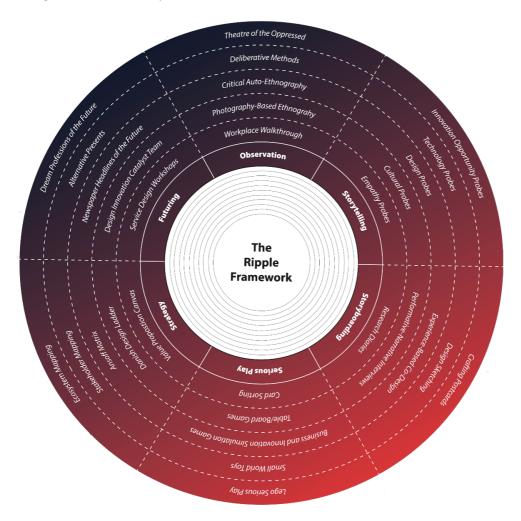


Figure 1. The current interactive version of the Ripple Framework

Pragmatic drivers for flexibility in the RF have led us to reflect on the methodological and theoretical flexibility it affords in enabling change-makers to navigate 'worlds-in-the-making' (Dewey, cf in Boydston, 1988, p. 149; Willis, 2006, p. 81). The framework supports co-design teams to create innumerable bespoke pathways of learning and action, as we can jump around clockwise and anti-clockwise pathways (Figure 1) to help understand, reinterpret, and act upon some of the fundamental issues identified by the ethnographic team. By taking this approach, we discovered that those affected by hard-to-track phenomena, often referred to as 'wicked problems' (Buchanan, 1992; Rittel & Webber, 1974), may now have more flexibility to speak about problems and act through new forms of engagement in which they are the main actors.

3 The state-of-the-art

Using co-design (Blomkamp, 2018) activities as a magnifying lens, we highlight a recurrent tension which we think still needs to be softened, i.e. the imbalanced relation of power between actors conducting applied research. Not surprisingly, previous research (Wilmsen, 2008) has made us aware of the need to consider a more balanced way to exercise power and control by researchers and designers when "configuring the process of participation and its outcomes" (Vines, Clarke, Wright, McCarthy, & Olivier, 2013, p. 435). Some relevant design toolkits have been proposed as a way to help understand and reduce the pace at which social crises are progressing. Wilson suggests integrating "listening and the notion of slowness [as a methodological approach] to move design practice beyond solutionism" (Wilson, p. 1). We subscribe this perspective because we are conscious of the power and control dynamics entangled in such processes. Lewrick et. al. suggested a new mantra, i.e., "don't design for yourself, [design] for people who seek to make their lives more fulfilling and have the courage to look at their current situation honestly" (2018, p.11). Lewrick et. al. offer a design toolkit that enables one to "initiate change and have the courage to think, act, and take advantage of life's opportunities" (idem). Jarusriboonchai et. al. offer an approach referred to as 'thinking out of the (tool) box' as a way to enable "end-user empowerment in the sense of giving people and communities access to tools and approaches for shaping their own lives with their own designs" (2019, not paged). We find another very valuable Ripple Effect Model in the work of Knutz and Markussen(2019), proposed as a way of locating different value outcomes from participatory work (interpersonal social value, demand value of a delivered design outcome, and research value, a reflexive learning approach to implementing design research). Knut and Markussen build on Sanders and Stappers' familiar 2008 model of design to propose a multi-directional expansion beyond "evidence-based ideals ideals fitting well with neoliberal agendas and new public management" (2021, p. 224). While their account of the development of serious games to support family visits and fathering for visiting facilities in Danish prisons results in a ripple outcomes model, we find a difference in that we deliberately started with a complex framework, which we found not only addressed practical issues, but aligned well with thinking on complexity in situated design 'problems'. Knut and Markussen's model gives us a way of dealing with complexity outcomes (Mowles, 2010) in participatory design, but we find complexity also in the process itself. This follows on from both Knutz and Markussen's recognition that social design is a "caring practice' (2021, p. 236), and Mowles' complexity outcomes thinking in the business and development field, where means and ends are understood to be mutually constitutive, leading to a focus on the possibility of "critical reflection, discussion and negotiation, through the exercise of practical judgement or phronesis" (Mowles, 2012, p. 544, italics original author's). We have been developing our own theoretical position on this processual complexity through configuring and applying our Ripple Framework as a methodology that deliberately structures opportunities for full mutual recognition and the sometimes uncomfortable "negotiation and exploration of difference" (Mowles 2021, p. 551 and 544). All roles in the process are invited to recognise themselves in the tools being used, and to focus on the quality of relationships through reflection and negotiation – and as Mowles suggests, we find that this "reflective and reflexive engagement...is not an adjunct to the work, it is the work" (2012, p.547).

4 The conceptual ground of the Ripple Framework

We interpret the above not only as a challenge but also as a methodological gap that we have explored through the Healthier Working Lives (HWL) research initiative funded by the Healthy Ageing Challenge, Social, Behavioural and Design Research Programme (SBDRP), running between March 2021 and February 2024 (https://www.ageing-sbdrp.co.uk/). The SBDRP is an interdisciplinary, intersectorial programme which aims to find ways of improving working conditions for care workers. When conceptualising the RF we therefore aimed to create a tool for furthering emancipatory work, "cocreating capacity for collaborators to 'go off and do their thing'" (2019, p. 75). This should enable us in acknowledging relevant tensions in social science and design research models, which tend to reduce the chances of better understanding problems and co-produce adequate responses because they lack the flexibility and elasticity required to deal with contemporary post-qualitative challenges (Lather & St. Pierre, 2013), and help us to deal with power inequalities hidden behind different façades. According to Salam et al., this increases the demand for cultural reflexivity "to ensure vulnerabilities of [participants] are not exploited as a result of the researcher's failure to identify power imbalances that may limit voluntary and informed consent" (2022, p. 769). This offers us the possibility to signpost likely failures to acknowledge the "baggage and prejudice" (Krause, 2012, p. 6), which can fragment attempts to build trust (Dibben, 2000; Marsh & Meech, 2000). As such, and also following Knutz and Markussen (2021) and Mowles (2012), we wanted to stay with the post-qualitative as an ultimately situated, in the moment, emergent and non-totalising position. To this end, the curation of our Ripple Framework was developed to echo the rhizomic thinking of Deleuze and Guattari and what they might refer to as "a thousand tiny methodologies" (cf in Lather, 2013, p. 635). The RF offers a methodological tool that provides a variegated landscape, aground for a relational form of mutual participatory research. This results in the process being similar to the whole-systems approach suggested by Brand et al. (2017) and the community capacity perspective introduced by Arole et al. (2004), with which we see a natural alignment. Our belief is that "rather than the conventional view where the form of an intervention has to be standardised and replicable across sites" (Hawe, Shiell, & Riley, 2004, p. 271), it is instead the function of the intervention (i.e., questioning assumptions) to vary across contexts. This way of implementing a non-determinist participatory co-design process (i.e., focusing on building meaningful relationships) is intended to empower vulnerable persons and communities (indeed all stakeholders) taking part in qualitative studies, through mutual becoming (De Beistegui, Plateaus, & Philosophy, 2018). In other words, we position the RF within a research environment in which the designer (individual/s with experience in convening and facilitating collaboration toward outcomes) and co-designers (participants providing insight from a particular setting) work together go beyond seeking to understand, describe, and diagnose, will now have the agency to "know and act" (Suchman, 1987, p. 179) within the situated action and far beyond the life of the research project.

4.1 A new tool to navigate social complexity and unpredictability

Prior to adopting a co-design method that may (through participation) identify pathways through a complex situation, the Ripple Framework offers a way of interpreting and exploring the inherent complexity and unpredictability of social phenomena. This is the context for the development of RF, in which the framework enables researchers and participants to embrace a more relational form of cooperation, namely by setting out a form of non-representational research that co-produces "correspondence" (Le Grange, 2018, p. 7). The RF (see Figs. 1, 2 and 3) is a curated set of 30 playful

activities (accessible online at https://ripple.designinformatics.org/), with the overall purpose of facilitating engagement with a range of stakeholders working in adult social care. The activities might be seen as metaphorical 'portals' or routes to navigate complexity and methodological unpredictability, providing actors with the opportunity to move (or even 'jump') from a passive role, towards the dynamic exploration of their situation, generating alternative presents and futures. Training in facilitation of both the framework and individual activities is of course desirable, but one novelty of the RF is that it can be used without an academic presence; one legacy we hope to leave is the development of new roles in the care sector, trained to deploy co-design activities beyond the life of this project. This strategy should allow staff to become the leaders of their own change, moving from an 'intrapreneur' to a change-maker imaginary, by restoring their agency to speak out and act within their social setting.

4.2 Addressing the potential methodological gap

The RF can enable research teams to act in a similar fashion to impact driven research and applied anthropology through playful methodological exploration. It enables more pragmatic flexibility to tackle 'wicked problems', and it gives participants "more control over action to address the social determinants [...] at a local level" (Lewis et al., 2019, p. 200) namely when including the voices and visions of those who are often seen as passive subjects of social sciences research (Wallerstein, Duran, Oetzel, & Minkler, 2017, p. 216).

| OBSERVATION | STORYTELLING | STORYBOARDING | SERIOUS PLAY | STRATEGY | FUTURING |
|---------------------------|---|---|--|---------------------------------------|---|
| Walkaround observation | Empathy probes | Research diaries | Cards sorting | The Value Creation Process for HWL | Service Design Workshop |
| Images based ethnography | Cultural probes | Performative narrative interviews | Table/board games | Danish Design Ladder | Design innovation catalyst teams |
| Critical auto-ethnography | Design probes | Experience-based co-design (EBCD) | Business & innovation Simulation Games (e.g. Solverboard & SimVenture) | Ansoff Matrix | Newspapers headlines of the future |
| Deliberative methods | Technology probes | Design Sketching | Small world toys | Stakeholder Mapping | Alternative presents |
| Theatre of the oppressed | Innovation opportunity probes e.g. poster probes) | Crafting Postcards (e.g. Postcards to the Powerful) | Serious play | Ecosystem Mapping | Dream care professions of the future |

Figure 2. The six segments of the RF: Observation, Storytelling, Storyboarding, Serious Play, Strategy and Futuring

When thinking about strategies to enable researchers and co-researchers to move "beyond [merely] defining and describing [a] conceptual framework" (Bowlby & McKie, 2019, p. 536) we created a heuristic table made of six interdepend segments. This enables us to observe, tell stories, and give structure to those stories in order to strategise before creating visions of the future (as per fig. 2). This would eventually be arranged in a circle to create a dynamic tool (see Fig. 1), allowing those actors to move in any direction and always building on previous stages of the research (see Fig.3).

5 Methodology: co-designing with care workers

In this section we illustrate how the RF was used in care homes taking part in the HWL research to enable diverse creative and innovative conversations around present situations, and their alternative futures. We use the co-design pathway co-produced with Care Home #3 (Fig. 3) as an example to illustrate how we engaged with each of participant care homes. Each co-produced pathway encompassed a five-stage process that moved clockwise around the Framework (Fig. 1), with each

stage customized to suit each particular context-situation. Figure three describes the stages and methods that were developed for Care Home #3. By using the RF, the co-designers surfaced issues affecting their professional and personal futures, while providing the design team with a way into their ongoing lived experience. The intention was, that the process would help designers to become familiarised with these care homes and their workers, learning about their struggles, and allowing trust to be formed while the research team adopted a reflexive "fluid and dynamic positioning" (Jimenez, Abbott, & Dasuki, 2022, p. 35).

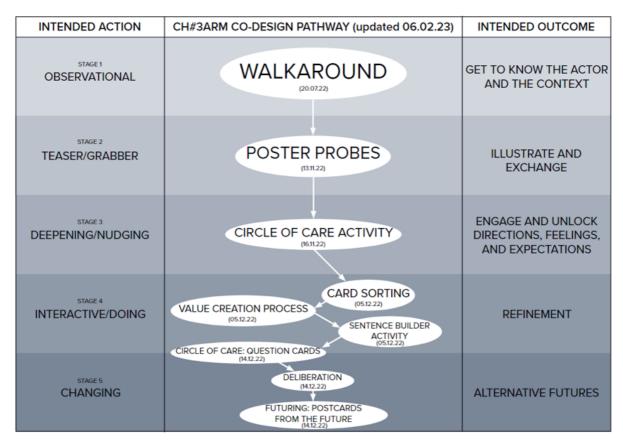


Figure 3. The five stages of engagement (bespoke pathway) co-produced for Care Home #3.

5.1 Stage#1 – OBSERVATION: observational activity aiming to get to know the actor and the context

Walkaround observation' (Hansen, Olsson, Blakstad, & Knudsen, 2010) was the point of entry of the RF and has become the preferred activity to explore and to obtain further engagement so that the research team can become immersed in the context of study. This activity allowed for the generation of a vast amounts of ethnographic notes and reflections compiled by the ethnographers on the research team rather than the designers. The walkaround observation activity is settled in the slice of pie defined as OBSERVATION, together with another four eminent ethnographic methods. By using this approach, it is worth underlining a potential overlap between the ethnography 'proper' and the 'quick and dirty' ethnomethodologically informed methods often found in design practice.



Figure 4. HWL researcher performing Walkaround Observation in Care Home #3.

5.2 Stage#2 – STORYTELLING: teaser/grabbing activity aiming to illustrate and exchange Informed by the data generated by the 'walkaround observation', we undertook a preliminary analysis of the data to determine the best method to use during stage #2 of engagement. This was an important moment of reflection that not only informed the strategy for the current site but also for future care homes. Based on the analysis, the team decided to use posters as design probes (Mattelmäki, 2006) during the first lockdown of the COVID-19 pandemic to begin the process of introducing two worlds to each other – the entrepreneurial design worlds attempting to design for the care sector, and the care sector workforce themselves. The posters described and invited feedback on selected existing products and services (e.g. apps, clubs or activities, and 'smart' systems) and were displayed in staff rooms and communal spaces (see Fig. 5). The posters were accompanied by clear step-by-step instructions and were then collected by the research team approximately 3 weeks later.

How could technologies like this support you in vour own work? isidads enjoy mo to face vather here tedivelosy If it was re-designed for your situation, what would e developer need to pay attention to?

Figure 5. HWL researcher placing Poster Probes in care Home#3.

5.3 Stage#3 – STORYBOARDING, SERIOUS PLAY and STRATEGY: deepening/nudging activity aiming to engage and unlock feelings, directions and expectations

Stage#3 was developed to offer a more fluid approach to data gathering, consisting of multiple methods including Sentence Builder activities (see Figs. 6 & 7), and the Circle of Care (developed after work by the Point of Care Foundation (2016) (Fig. 8). These methods were used to engage and unlock directions, feelings and expectations, allowing co-designers to act while discussing in an open-minded manner and building a willingness to embrace new ideas and consider alternative ways of thinking about care and their future. These methods sit in the segments of the Ripple Framework named STORYBOARDING, SERIOUS PLAY and STRATEGY.

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Figure 6. First iteration of Sentence Builder Activity.

Figure 7. Final version of the Sentence Builder Activity.

5.4 Stage#4 – STRATEGY: Interactive/Doing refinement activities

This stage was more interactive, with co-researchers deeply engaged in playing with their own words which had been captured in previous stages. The aim was to refine those words and attempt to understand the meanings and ways of conceptualising realities as expressed in thoughts and expectations about the future. The Sentence Builder Activity and Card Sorting were the vehicles used to explore everyday concepts and meanings considering that "social reality is made up of shared interpretations that social actors produce and reproduce as they go about their everyday lives" (Blaikie, 2010, p. 94).



Figure 8. Co-designers interacting with the Circle of Care activity.

5.5 Stage#5 – FUTURING: care visons and alternative futures

FUTURING was the final step (stage#5). The methods included in this segment were chosen exclusively with the HWL project in mind to allow us to envision futures. This began to visualise futures should they keep acting upon their circumstances, and what they might need to make change outside of existing spheres of control. One of the activities used to explore these futures was Newspaper Headlines of the Future (Figs. 9 & 10).



Figure 9. Newspaper Headlines of the Future: first page of a local newspaper from the year 2035 produced by CH#4.

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|---|--|--|
| Thurksday, 16th N Scottish Employe Srootish Employe Srootish Employe Srootish Employe Srootish Salary pace I Thely place to work to Scylis and Salary to Scylis and Salary abo appearing the to base sport is available from overybody Shar has powed weekship to have the graves home to base the graves home. | the year 2035 The year 2035 makes Bandrum Inology a supposed cut and the younger wade it as athender eration. The see a- impose as | Care is changing to hybrid care. We are responding to changing needs q or residents and hear to endence which she to endence which she |

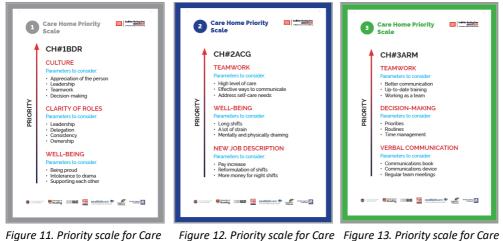
Figure 9. Newspaper Headlines of the Future: first page of a local newspaper from the year 2035 produced by CH#1.

Discussing outcomes values 5.6

To reflect on the outcomes values generated by the HWL we will build on Knutz and Markussen (2019) when proposing a new methodological approach – the Ripple Effects Model (in Rodgers, 2018, p. 238) and present three forms of outcome value, namely Research Value, Demand Value and Social Value. By doing so, we want to highlight how the Ripple Framework has supported a co-performed deliberation that enabled new visions of care and alternative futures for care workers to be articulated.

5.6.1 **Research value**

The novelty is the dialogue that it enables, leading to capacity-building and empowerment of the care workers. The RF encouraged these actors to act and speak about their deep-rooted feelings and worries and the implication of this for their wellbeing, both physical and mental. This is one of the most significant outcomes that RF is beginning to reveal. Equally important, the research is hinting that the material and visual language of co-design can play a vital role in demonstrating respect for the work at hand, and thus becomes transferable to stages of collaborative research team building, including recruitment as a form of invitation, and the subsequent development of trust and pride in new co-researcher roles. This is not only relevant to the corporate and commercial sectors but is equally important for the third sector and policymaking arena. In a more substantive way, it helped to prioritise opportunities for change arrived at through collective deliberation (see figs. 11-16).



Home#2

Figure 11. Priority scale for Care Home#1t

RIORI



Home#5

Figure 14. Priority scale for Care Figure 15. Priority scale for Care Home#4

Figure 16. Priority scale for Care Home#6

Home#3

5.7 Demand value

In Care Home #1, the change was placed at the level of organisational culture, where 'appreciation of the person' emerges as the first priority to be addressed. In Care Homes #2, #3 and #5, the opportunity for change was placed in a teamwork dimension, promoting time-saving and contributing to effectiveness. In Care Home #4, the process of change points to simplification, namely with regards to the sharing of information across teams (e.g., between night and day shift workers). Care home #6 deliberated a more nuanced perspective, pointing to job satisfaction, in which providing better care for residents is intertwined with the need to run the care home smoothly. The outcomes are the result of the deliberation are presented above in figures 11 to 16.

5.8 Social Value

Returning to the RF we recall that the main aim is to support both designer-facilitators and codesigners to link their trains of thought. It facilitates the conceptualisation of the world-in-the-making (Dewey, cf in Boydston, 1988, p. 149; Willis, 2006, p. 81), mainly by acknowledging the call for more flexible tools to get to know the things we want to know, and that, if we want to understand life as it is, we will need to question what life has been (tradition: existent practices), and what it can be (transcendence: possible future practices) (Ehn, 1989). To achieve this, we argue that the RF offers a relational approach through emerging, mutual performance between designers and co-designers, offering possibilities for "rumination on listening" (Wilson, p. 1) "out of the (tool) box thinking" (Jarusriboonchai et al., 2019) and a questioning of assumptions through "methods that make possible the transformation of the world" (Le Grange, 2018, p. 8). Importantly, the RF supports the development of meaningful relationships with co-designers (in this case, care workers) (Knutz and Markussen 2021, Mowles 2012), consciously paying attention to dynamics at the micro level to counter abstracted macro level goals, to become less generic, and situate change in the context of care-full practice.

5.9 Playing with alternative futures

The inclusion of care worker's views in the suggested changes, is a democratic decision intended to "promote the journeying of transformation and change worlds with plural and motivating imaginaries" (Light et al., 2022, p. 2). We take this opportunity to argue that the alignment of today's reality and what the future might look like was made possible using the Ripple Framework, which has assisted designers and co-designers to capture important practical aspects of their day-to-day routines enmeshed in delivering care and rethink how this can be redesigned to push forward important changes, therefore adding value in terms of new skills, aptitudes and positions/orientations and allowing for individual growth. This is particularly pressing given the aftermath of the Covid 19 pandemic and society's current ongoing issues such as the energy crisis and persistent inflation. We reiterate that the respect towards the wants and needs of the care workers are the focal point to where relevant stakeholders should channel their resources in a collaborative effort to co-design responses for the care sector in Scotland and the UK.

5.10 Language of co-design

Equally important, the research is hinting that the material and visual language of co-design can play a vital role in demonstrating respect for the work at hand (see fig. 9 & 10), and thus becomes transferable to stages of collaborative research team building, including recruitment as a form of invitation, and the subsequent development of trust and pride in new co-researcher roles. However, we sense that further work is needed to consolidate what has been achieved so far and to illustrate how the Ripple Framework can be used in contexts that are not exclusively academic, namely in the third sector and industry partner contexts; also, how it can be used to obtain community engagement and help dissolve complexities and cross disciplinary boundaries with less friction, thereby facilitating the co-creation of bespoke responses to complex problems, which we now refer to as 'wicked solutions' (a design version of complexity outcomes) and present new visons of what care, care roles and the care industry can look like in the future (see fig 11-16).

6 Concluding remarks

As Healthier Working Lives continues, we aim to further interrogate the frameworks' ability to support politically aware, democratically informed, sensory and whole-body methods of engagement, within the broader context of ecological, preventative and anticipatory care contexts (Hanlon & Carlisle, 2016; Kettley, 2021). This will be undertaken in a spirit of collective reflection as a "relational property of people" (Donati, 2011, p. 112). Building on the work of Knutz and Markussen, and drawing on complexity outcomes thinking in development theory, we underline the "urgent requirement for evaluation research that focuses on co-design impacts" beyond determinist paradigms and neoliberal agendas (King, Cormack, Edwards, Harris, & Paine, 2022, p. 1). Consequently, we hope that the RF, as an outcome of this project, will help promote relational praxes in the context of co-design and those sectors interested in learning from critical social sciences to inform their agendas, including industry and innovation bodies wanting to bridge social science research and innovation. Going further, we also understand our position to be aligned with the transformative goals of social entrepreneurs who share similar co-design capabilities based on philosophies of sustainability, growth and wellbeing. As such, we expect this tool to be of practical interest not only to the design community but also to communities-of-practice engaged with nothing less than transformative approaches to the generation of policy at a global level, and across nations.

Acknowledgements

The project is led by Professor Linda McKie, and supported by Professor Sophie Bowlby, Dr. Stella Chan, Stephen Coleman OBE, Caroline Dean, Julian Grice, Professor Sarah Kettley, Dr. Sue Lewis, John Matters, Dilesh Shah, Dr. Luis Soares, Kyle Morrison and Tali Cahani, to whom we thank you for direct and indirect contribution to this work, extending this acknowledgment to all members of the Knowledge Network. The HWL project is funded through UKRI Health Ageing Challenge Social, Behavioral and Design Research, grant number ES/V016156/2

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