

42.2 Understanding Co-Design Practice as a Process of “Welldoing”

Aaron Davis^{id}, **Michelle Tuckey**^{id}, **Ian Gwilt**^{id}
and **Niki Wallace**^{id}

Abstract

Co-design and other associated design approaches often deploy creative and making approaches in facilitating collaborative practices. In a therapeutic setting, engagement in creative and making activities have been associated with improvements in people’s well-being, yet when deploying these as part of co-design practices, these outcomes are often overlooked. This paper presents the results from a series of workshops that focused on the well-being benefits of participating in co-design practices. The research uses Max-Neef’s (1991). Theory of Needs to explore how innate human needs might be satisfied through participation in co-design practices, and demonstrates how this framework might be used for planning and evaluating co-design practices through a wellbeing lens. Finally, it suggests that future generations of design practitioners would benefit from exposure to the consideration of co-design as a process of “welldoing.”

Introduction

The therapeutic benefits of engaging in creative and making practices are well-documented (Burt & Atkinson 2012; Huotilainen *et al.* 2018); however, much of the knowledge in this area is focused on using creative and making practices as an intervention that is outside of everyday practices. Co-design practices offer an opportunity to embed these well-being delivering creative and making processes into engagement and collaborative projects. Co-design often involves collective creativity as part of a design development process (Steen 2013) and, within the co-design experience, a range of transactions take place that may benefit participants in different ways. In this paper, we present a collection of insights into the benefits of constructing and taking part in participatory co-design, which advance thinking

This is an open access article under the terms of the [Creative Commons Attribution License](#), which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

on the value of co-design processes. We focus specifically on how co-design can lead to well-being, and build an argument for embedding the understanding of co-design as a process of “welldoing” into our education systems to equip the next generation of design practitioners with a more nuanced understanding of their role within society. We base our arguments in reflections from a workshop in which co-design practitioners from around the world explored processes that engage communities in ways that positively contribute to well-being, as distinct from a more instrumental or event-based focus, which is often found in design engagements with end-users.

Background

Co-design, or collaborative design, is an approach to design that focuses on working with (rather than ‘for’) the people who will use a product, service or system throughout its development. In a western or Global North sense, co-design has its roots in the participatory design practices that emerged in Scandinavia in the 1960s (Sangiorgi & Prendiville 2017). It has since grown to be a critical part of both product and service innovation processes (Sangiorgi & Prendiville 2017). At its core, co-design reframes the relationship between designers and participants, flattening the hierarchy with the intention of leveraging insights from lived experience.

Over past decades, the term ‘co-design’ has been applied in a wide range of areas, describing approaches that vary from extractive end-user or market research, to more generative and community building projects (Sanders & Stappers 2008). In this paper, we focus primarily on this latter form of co-design. In their seminal paper, Sanders & Stappers (2008) note the changing role of the design researcher, shifting from being an external observer of the process, to an embedded contributor in partnership with research participants. This reframes the relationship between designers and participants in co-design practices, flattening the hierarchy with the intention of leveraging insights from lived experience. To date, the opportunities for exchange and dialogue that are brought about by this shift are underexplored.

Foundational within co-design practice is the principle that the contributions of participants are expert and critical (Sanders & Stappers 2008). It is surprising, then, that the benefits received by these participants are not typically captured in evaluation processes (Davis 2019). In defining the value proposition for undertaking a co-design process, as distinct from other design processes, there is often a focus on the outcomes being more ‘fit for purpose’ (Steen *et al.* 2011), or a recognition that the engagement and collaboration can lead to social learning (Rodela 2011) or ‘informal mutual learning’ (Calvo & Sclater 2021). Within this largely instrumental framing, the well-being benefits of taking part in co-design processes are not often measured as an outcome (Wallace *et al.* 2021).

The lack of attention to well-being contrasts with the evidence, across a variety of fields, that participation in creative activities is associated with significant wellbeing benefits for participants, including through improved physical health (McDonald *et al.* 2018) and psychological well-being (Saavedra *et al.* 2018). Examples from among the wide-ranging literature include: participation in art workshops promoting recovery of persons with mental illness (Saavedra *et al.* 2018) and stimulating intergenerational learning and well-being (Burke *et al.* 2021), creative

practices embedded in environmental enrichment studies promote physical recovery (McDonald *et al.* 2018), and quilting and other craft-based activities boost well-being (Burt & Atkinson 2012; Huotilainen *et al.* 2018).

Many of the tools and techniques used in co-design practices are generative (Sanders & Stappers 2012) and use creative processes, including collective making, as strategies for exploring issues, problem spaces or specific challenges (Langley *et al.* 2018). The importance of these practices is described in a number of ways in the literature. Brown & Vaughan (2009), for example, describe how play-based processes enable serendipitous discovery by making complexity tangible. Irwin *et al.* (2022) similarly draw attention to co-design practices as being critical for problem-solving, particularly when working with complex adaptive systems in the field of Sustainability Transitions, while Lee & Park (2021) emphasise the role of paper-based prototyping in building empathy. There is also a recognition of the flattening of power hierarchies through abstraction and turn-taking practices associated with many co-design methods (Ferne 2020; Tierney *et al.* 2021).

There are various co-design toolkits that offer detailed frameworks for selecting generative participation tools to suit the needs of a co-design process. As an example, Sanders *et al.*'s (2010) influential framework describes how tools can be applied in different stages of the co-design process and provides advice on which tools work with individuals as compared with groups and in face-to-face or online environments. Although this guidance is useful in realising an effective co-design process that actively engages participants towards the design outcome, these frameworks do not often address the experiences that may be had by participants. Sanders & Stappers' (2012) *Convivial Toolbox* represents an exception in that it engages, albeit indirectly, with the idea that participation can be an enjoyable and rewarding experience, beyond the design outcomes that are generated.

In architecture and urban design, two of the primary models for evaluating participatory processes are the International Association of Public Participation's (IAP2) *Public Participation Spectrum* (2014), and Arnstein's *Ladder of Citizen Participation* (1969). Both models explore the role of participants in design projects, the kinds of contributions they are able to make and the power relationships between professionals and the community. However, in both frameworks, the assessment of the participatory process is biased towards participants' contribution to, or control over, the decision-making processes that determine project outcomes. By contrast, Ackoff (1974) and the authors (Davis 2019; Davis *et al.* 2022b) seek to identify opportunities for capturing value that is derived from the process of participation itself, building on influential work on collaborative exchanges by Sennett (2012) and Mauss (2002) among others.

The three rules of participation in a project attributed to Ackoff (1974) are that: (1) the subject of participation should be meaningful for those who engage; (2) there is a high likelihood of the project being implemented; and (3) that participation should be fun (McGinley & Nakata 2012). The third 'rule' can be seen as tentatively shifting process planning and evaluation towards a participant-centric position and away from a (predominantly) outcome-centric position reflecting the needs of the researchers, designers, facilitators or clients. Although in their infancy, processes to structure evaluations that capture the intangible value generated and exchanged within co-design processes are being developed (Davis 2019). Even so, considering participation in co-design processes through the lens of wellbeing, in addition to how participant contributions shape project outcomes, represents a paradigm shift in the field.

We argue co-design processes should be understood as processes of ‘well-doing’. That is, generative creative processes that can contribute to participants’ well-being, while simultaneously helping to achieve a collective outcome for a project.

Defining the benefits of participation requires an understanding of participants’ motivations, as well as an approach to evaluation that can establish whether participants’ reasons for participating are satisfied. The balance between intrinsic and extrinsic motivation in collaborations has been explored in other areas, particularly relating to the outsourcing or crowdsourcing of effort. In large experimental studies, both Rogstadius *et al.* (2021) and Zhao & Zhu (2014) found that participants were motivated by a combination of intrinsic and extrinsic factors, but that intrinsic motivation was a key predictor of the successful completion of tasks. This finding broadly aligns with behavioural research that has found extrinsic motivators to be less effective in changing behaviours (Cialdini 1993).

Participation as a generative rather than extractive process

The extractive nature of many research processes has been the subject of much ethical debate and, in the healthcare sphere, it has become commonplace to use extrinsic (financial) reward structures to compensate participants for their contributions (Malmqvist 2019). The challenges of the professionalisation of research participation in clinical research was identified in a review by Grady *et al.* (2005), yet the structures that enable this remain the default form of engagement (Malmqvist 2019).

In some instances, this results in pressure from ethics committees or other research administration structures to financially compensate participants, something Malmqvist (2019) describes as participants being “paid to endure” research. Although the methodologies, approaches and even underlying epistemological and ontological dimensions of co-design practices may differ from those underpinning research in other fields, co-design processes are often structured using similar understandings of participant engagement [see, for example, some of the core conclusions from Daniels *et al.* (2021) systematic review of the literature on workplace health and wellbeing interventions]. In returning to the idea that participation in co-design processes can have significant benefits for participants, we would argue that extrinsically focused approaches are misguided and overlook the opportunities to meet the intrinsic needs of participants.

In order to connect the well-being benefits of engaging in co-design processes with the structures used to plan and evaluate these processes, the authors have previously suggested there is value in using an integrated approach that considers participation outcomes to be as critical as design outcomes (Davis *et al.* 2022a). Stated another way, the relationship between researcher (or designer) and participant (or co-designer) can be reframed as a two-way relationship where each party is responsible for ensuring the other is receiving benefit. The strength of this bilaterally asymmetric relational structure is well-understood in anthropology (Graeber 2001; Mauss 2002) and is a more nuanced way of describing ‘win-win’ engagement.

The importance of reciprocity has been described in research about the exchange between audience and performer in creative practices, with Geeves *et al.* (2020) describing the audience as critical in delivering wellbeing benefits to performers and *visa-versa*. These relational dimensions have also been noted by Saavedra *et al.* (2018), who found that in an art workshop, the horizontal

relationships were 'of value', both between participants and facilitators and between participants themselves.

Intrinsic values can be difficult to discern from the kind of open-ended self-reporting of experience that is often used to evaluate co-design processes. This is not, however, an intractable challenge. In psychology for example, surveys apply standardised measures to translate self-reported phenomena into rigorous data sets. In following this approach, the authors have proposed a framework for considering the well-being benefits of participating in co-design processes by exploring the application of Max-Neef's (1991) Theory of Needs to co-design practices (Wallace *et al.* 2021). The Theory of Needs proposes a matrix of nine axiological needs and four existential needs and associated satisfiers (Max-Neef 1991). The framework has similarities with Maslow's (1943) hierarchy of human needs, with a graded shift from physiological (Maslow) or subsistence (Max-Neef) to self-actualisation (Maslow) or freedom (Max-Neef). An underlying premise in this research is that satisfying these needs is associated with increased well-being.

The addition of 'satisfiers' for the human needs identified in Max-Neef's (1991) framework can be aligned with Herzberg's Two-factor Theory (1959) whereby workplace attitudes and behaviour are seen as being shaped independently and together by both satisfiers (motivators) and dissatisfiers (hygiene factors). In Herzberg's work, motivator factors are primarily intrinsic forms of value, while hygiene factors are primarily extrinsic in nature. The exclusion of hygiene factors in Max-Neef's Theory of Needs focuses the application of the framework on motivators, which directly foster satisfaction when they are fulfilled. Evaluations based on this framework can thus begin to capture the production of inherent value for participants. As such, Max-Neef's framework can provide guidance for structuring an evaluation of the wellbeing benefits of participation in co-design that are the focus of this research.

The primary question in this research is: Which needs from Max-Neef's (1991) Theory of Needs can be satisfied through engagement in co-design practices?

In the sections that follow, we report on the unpacking of this framework through a co-design workshop with co-design practitioners to deepen our understanding of how co-design practices can support the well-being of communities.

Method

This paper reports on the outcomes from two workshops conducted with co-design practitioners from around the world. The first workshop included 27 face-to-face participants and six online participants at the Design Research Society conference in Bilbao, Spain. The second included seven face-to-face participants at University of the Arts London and one online participant.

Although being conducted in a selective context (participants needed to be attending the Design Research Society conference or faculty at University of the Arts London), a hybrid approach was adopted increase the opportunities for diverse participation (Davis *et al.* 2021). The workshop was advertised as part of the conference program, and the authors shared the workshop via their professional networks. Formal registration for the first workshop was via the Design Research Society conference platform, however, participants without a formal registration were also welcomed to participate. Registration for the second workshop was via email, and the workshop was advertised internally to University of the Arts

London staff who were identified by Author Wallace with advice from the Dean as having an interest in co-design practices.

Three of the authors acted as facilitators for these workshops with two facilitating the face-to-face workshops (Davis and Wallace) and one facilitating the simultaneous online workshop via Zoom teleconferencing software and the Miro collaborative online space (Gwilt).

Both workshops followed the same format and were titled “Co-design: what are you really getting out of it?” In each, co-design practitioners were challenged to consider which elements of Max-Neef’s (1991) Theory of Needs may be satisfied through various co-design practices, and to explore how participants’ implicit knowledge about the value of engaging people through design practices could be made explicit in co-design planning and evaluation.

The workshop began with a brief overview and contextualisation from the researchers to situate the workshop discussions within the research question. Participants then broke into small groups to respond to an initial set of prompts: Describe a successful participatory project; what made it successful?; how was success measured?; what else would you have liked to have measured and why wasn’t it measured? The workshop then used a self-facilitation model to allow different groups the freedom to explore the workshop content in different ways, and to allow the facilitators to embed themselves into groups as participants for large parts of the co-design process (Sanders & Stappers 2008). The self-facilitation model was based on participant placemats, and game-cards with instructions and processes that facilitated turn-taking and self-direction within the groups.

The first part of this self-facilitated process used a role taking approach to help workshop participants detach from their primary position as co-design facilitators, and to consider their knowledge of the experiences of others during co-design processes. This followed a series of steps to explore predefined stakeholders, identify further stakeholders and plan strategies for engaging these stakeholders in a co-design process. Careful attention was paid to acknowledge the limitations of hypothetical stakeholder representation and persona-based approaches to ensure the focus remained on the processes of co-design rather than the specifics of the stakeholder groups that were being discussed. Workshop participants were then asked to discuss and document the types of value that may be generated through the co-design processes they had described. Following this discussion, workshop participants were given a deconstructed version of the Theory of Needs (Max-Neef 1991) that presented each need (and the associated satisfiers) on a separate sheet. They were then asked to mark which of the satisfiers they could imagine observing in the co-design process they had described (Figure 1).

After a short break, the workshop returned to a higher level small group discussion about what makes participation ‘good’ and ‘bad’ with prompts to unpack processes and practices associated with these experiences. The last small group activity plotted evaluation methods that participants had used as part of co-design processes onto a cartesian plane with the x-axis labelled qualitative and quantitative, and the y-axis labelled formal and informal. The workshop finished with an open round of ‘checkouts’ for participants to share their reflections on the workshop processes, as well as to give any final thoughts about the workshop topic.

The findings presented here triangulate facilitator reflections with participant-led documentation throughout both of the workshops. The workshop sessions were not recorded; instead, participants were asked to document their own

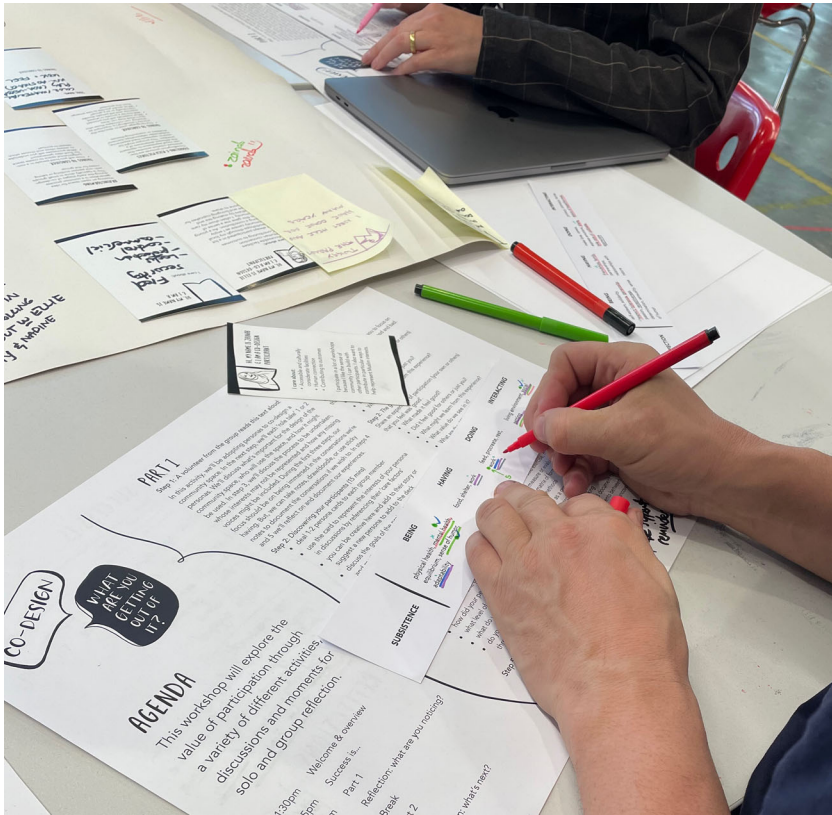


Figure 1

Participant Placemat with Instructions for the Workshop, Game Cards, and Needs/Satisfiers Strips.

experiences throughout the activities. The decision to not record the workshop was made to enable participants to express views and participate freely, while also helping to ensure verbatim comments are not misrepresented. The reflections and notes made by facilitators after the event allow participant contributions to be expanded upon and contextualised within the workshop experience using a framework of reflective practice (Schön, 1983).

Results and discussion

The workshop generated significant discussion and debate among participants, with many reporting how much they enjoyed the opportunity to engage with the topic with their peers during the time we spent together. This is encouraging as the researchers had defined sharing, empathising and networking as key forms of value the workshop should deliver when planning the activities. During the role-taking activity, participants appreciated the opportunity to step outside of their normal role in co-design processes (as design researchers or facilitators), and to consider the experience of different stakeholders.

The task of essentially co-designing a co-design process allowed workshop participants to critically reflect on their own experiences of co-design practices without necessarily having to share personal stories. In essence, the role-taking approach was able to emulate the third space created through play or making practices (Brown & Vaughan 2009; Langley *et al.* 2018). The challenges of this process also provided an opportunity for participants to share the importance of engaging 'real' community members in co-design practices.

Setting aside tangible project outcomes as part of a co-design process during this workshop challenged the workshop participants (who were design researchers/facilitators) to unpack the value of engaging community members beyond the default of 'delivering better project outcomes'. The complete detachment from co-design outcomes may appear for many to be at odds with the purpose of co-design, but in this research, it allowed co-design practice to be broken down to a point where it could be viewed alongside the therapeutic creativity interventions discussed previously.

The role-taking activity also encouraged participants to consider additional voices that may need to be considered in the hypothetical project brief that was being discussed. An interesting dimension for both the conversation, and the latter reflections on how we might understand the value of different types of processes for participants emerged through the creation of a series of non-human personas. These included the local wildlife, and the landscape and challenged us as researchers to consider how the framework we are proposing might be applied beyond human contexts.

Much attention has been paid to the 2017 legal decision that granted the Whanganui River in Aotearoa New Zealand legal personhood, particularly since the implications of an ecological system having rights that can be enforced by the law are far ranging (Kramm 2020). If applying this concept to the outcome-focused forms of evaluation described earlier (Arnstein 1969; IAP2 2014), a co-design process would need to consider the balance between the (assumed) preference of this system and those of other stakeholders. This begins to trace the line of thought explored by Arnstein (1969) and more recently by Schatz & Rogers (2016) that engaging a small group of citizens may indeed be undemocratic because it excludes the wider population from decision-making processes.

Rather than focusing on 'how' we might engage with non-human stakeholders during co-design processes, the reflection on what value these stakeholders might receive through participating allowed a far more nuanced exploration. This was particularly interesting when attempting to nominate which of the axiological and existential needs might be able to be satisfied through the non-human actor being engaged as part of co-design or creative practices. While no definitive answers were derived, it identifies an opportunity to consider how, from their perspective, non-human actors might benefit from being part of our co-design or creative practices beyond seeing 'improved project outcomes'. Max-Neef's (1991) framework here is limited because it relies specifically on the attribution of human needs to a non-human actor, with emergent suggestions to address this including looking to decolonising approaches or indigenous cultures' collaborative relationships with the world around us (see for example the work of Parsons *et al.* 2016). What can be taken forward from this, however, is the opportunity for co-design practices to encourage and support reciprocity and to facilitate processes of "welldoing" with participants, both human and non-human.

Workshop participants were asked to consider, from their own professional experience as co-design facilitators and design research practitioners, whether they had been part of processes where particular needs were being satisfied. They were asked to specifically reflect on processes holistically, and to use the experience of role-taking to consider communities they had worked with in the past. This was not intended to define which of the needs are actually satisfied through participation in co-design processes as this is a matter for individuals. Instead, participants explored which needs might be possible to address through the practices of co-design.

The results of this process are aligned with Max-Neef's framework in Table 1 below. It is evident that workshop participants considered it possible to satisfy (to some degree) almost all axiological and existential needs highlighted through co-design practices. It should be noted here that the mapping in Table 1 does not relate to a particular or singular process; instead it demonstrates a way of thinking about co-design that can augment current planning processes by allowing practitioners to consider the value (well-being) that will be received by participants through the satisfaction of human needs.

While it is immediately striking how many parts of the matrix were highlighted by workshop participants, this is perhaps unsurprising given the methodological flexibility associated with co-design practices. This is not suggested to be a universal or holistic evaluation, but instead, to demonstrate how this type of framework can provide a structure for planning and evaluating processes at a deeper level.

As a more specific exploration technique, co-design processes can be explored through the lens of different types of satisfiers. Max-Neef (1991) describes five types of satisfiers: violators and destructors; pseudo-satisfiers; inhibiting satisfiers; singular satisfiers; and synergic satisfiers. Violators and destructors are perceived ways of satisfying needs that actually cause harm or impairment. Pseudo-satisfiers provide a temporary, but not lasting satisfaction of a need, while inhibiting satisfiers are those that simultaneously satisfy one need while impairing the ability to satisfy other needs. Finally, synergic satisfiers satisfy multiple needs simultaneously.

Unpacking co-design processes through these framings can provide opportunities to go beyond typical evaluation metrics. In contrast to the IAP2 Spectrum (2014) and Arnstein's Ladder (1969), discussed earlier in this paper, these approaches allow the complex value generated through co-design practices to be surfaced and captured. For example, allowing a population to vote on options for a decision may satisfy 'Empower' (the highest level) on the IAP2 spectrum (2014) or 'Citizen Control' on Arnstein's Ladder (1969). But, where options are presented in a way that shapes responses, either accidentally or intentionally, these processes can resemble Arnstein's description of 'manipulation' (1969). Using a needs satisfaction approach, this process may be identified as providing a pseudo-satisfier to 'participation' without providing opportunities to address other needs. If re-designing this process to satisfy other needs, from lower-order needs of 'protection', 'affection' or 'understanding', to higher-order needs of 'idleness', 'creation', 'identity' or 'freedom', it is likely to look very different and to be less susceptible to misapplication.

Workshop participants noted that the approaches that sat across multiple levels on the framework 'felt right' and constituted 'good processes', and a needs-satisfaction framing could link these with increased wellbeing for participants. They also noted that little was being done to measure, document, or report on these as outcomes. Max-Neef (1991) describes these practices (synergistic satisfiers) as

TABLE 1 Matrix of needs and satisfiers from Max-Neef's Theory of Needs (Max-Neef 1991) with bold indicating workshop participants identification of a link with co-design practices

	Being	Having	Doing	Interacting
Subsistence	Physical health, mental health, equilibrium, sense of humour, adaptability	Food, shelter, work	Feed, procreate, rest, work	Living environment, social setting
Protection	Care, adaptability, autonomy, equilibrium, solidarity	Insurance systems, savings, social security, health systems, rights, family, work	Cooperate, prevent, plan, take care of, cure, help	Living space, social environment, dwelling
Affection	Self-esteem, solidarity, respect, tolerance, generosity, receptiveness, passion, determination, sensuality, sense of humour	Friendships, family, partnerships, relationships with nature	Make love, caress, express emotions, share, take care of, cultivate, appreciate	Privacy, intimacy, home, space of togetherness
Understanding	Critical conscience, receptiveness, curiosity, astonishment, discipline, intuition, rationality	Literature, teachers, method, educational policies, communication policies	Investigate, study, experiment, educate, analyse, meditate	Settings of formative interaction, schools, universities, academies, groups, communities, family
Participation	Adaptability, receptiveness, solidarity, willingness, determination, dedication, respect, passion, sense of humour	Rights, responsibilities, duties, privileges, work	Become affiliated, cooperate, propose, share, dissent, obey, interact, agree on, express opinions	Settings of participative interaction, parties, associations, churches, communities, neighbourhoods, family
Idleness	Curiosity, receptiveness, imagination, recklessness, sense of humour, tranquility, sensuality	Games, spectacles, clubs, parties, peace of mind	Daydream, brood, dream, recall old times, give way to fantasies, remember, relax, have fun, play	Privacy, intimacy, spaces of closeness, free time, surroundings, landscapes

(continued)

TABLE 1 (continued)

	Being	Having	Doing	Interacting
Creation	Passion, determination, intuition, imagination, boldness, rationality, autonomy	Abilities, skills, method, work	Work, invent, build, design, compose, interpret	Productive and feedback settings, workshops, cultural groups, audiences, spaces for expression, temporal freedom
Identity	Sense of belonging, consistency, differentiation, self-esteem, assertiveness	Symbiosis, language, religion, habits, customs, reference groups, sexuality, values, norms, historical memory, work	Commit oneself, integrate oneself, confront, decide on, get to know oneself, recognise oneself, actualize oneself, grow	Social rhythms, everyday settings, settings which one belongs to, maturation stages
Freedom	Autonomy, self-esteem, determination, passion, assertiveness, open-mindedness, boldness, rebelliousness, tolerance	Equal rights	Dissent, choose, be different from, run risks, develop awareness, commit oneself, disobey	Temporal/spatial plasticity

constituting “a reversal of predominant values, such as competition and coerciveness” (Max-Neef 1991, p. 34). He also identifies a number of processes that can be linked with co-design in this category, including direct democracy, educational games, democratic community organisations, popular education, and self-managed production as fitting into this category (Max-Neef 1991).

Implications for design education

The designer is central in framing the way in which co-design and design research is undertaken (Sanders & Stappers 2008), and design schools play a critical role in shaping future practices (Manzini 2011; Manzini & Coad 2015). There has been a number of recent studies that have explored how techniques for participatory practices including co-design and co-creation can be embedded into design curricula (see for example Ferro *et al.* 2020; Dhadphale & Wicks 2022), but, these often focus on benefits to projects or to the designer’s understanding of, and empathy for, communities, rather than on providing a framework for integrating the value generated by these approaches into their design practices. The framework and approach suggested in this paper may be useful in helping foreground the role of the designer in supporting the well-being of co-design participants, as well as connecting design and design facilitation skills with a pathway to target and evaluate specific well-being outcomes through projects. By exposing students to this framing as part of their education, we see an opportunity to educate a generation of designers that can support the well-being of their collaborators while simultaneously achieving project outcomes.

Conclusion

Co-design continues to be used as a ‘catch all’ term and describes a wide variety of processes. Emphasising the importance of considering the direct value for stakeholders through these processes has the potential to reframe the ambition and purpose of co-design practices. Expanding the focus from outcomes, or the needs of the project, to explicitly encompass processes, and the needs of participants and stakeholders, provides an opportunity to think more holistically about ways of working in partnership with communities. The value of co-design practices for participants has long been implicitly recognised by co-design practitioners; by making explicit the wellbeing benefits of participation in design and creative practices, there may be an opportunity to reframe the way co-design is both planned and evaluated.

A value-based planning approach to co-design may also give rise to the opportunity to more thoughtfully engage with complex adaptive system problems by more deeply considering the relationality between participants. This includes understanding the needs of individual participants, and potentially defining a new set of needs that can be used to reframe our partnership with ecological systems.

In a holistic approach to evaluation, further research could explore the expansion of Max-Neef’s framework through the lens of Herzberg’s Two-factor Theory to identify co-design practices that area associated with hygiene factors, that is those elements that are required to prevent disengagement alongside those that encourage participation and deliver wellbeing.

Whether considering non-human actors as part of a design process, or simply repositioning ones’ self when planning a co-design process, the act of stepping

outside of the dominant outcome-driven paradigm to consider other forms of value that can come from co-design is an important learning process for those who design, develop and implement these research practices. A 'wellbeing' approach based on the consideration of the needs stakeholders may be seeking to satisfy through their participation, can allow practitioners to develop co-design practices that deliver well-being alongside other project outcomes.

Acknowledgement

The authors wish to acknowledge the generous contributions of all workshop participants to this research. Open access publishing facilitated by University of South Australia, as part of the Wiley - University of South Australia agreement via the Council of Australian University Librarians.

Aaron Davis is a Lecturer in Architecture at the University of South Australia, and an adjunct Research Fellow at the Florey Institute of Neuroscience and Mental Health. He works across a range of interdisciplinary teams, and at the intersection of built environment, community, health and technology. Dr Davis' research interests include social value, social practices, sustainability, the social shaping of technology and the processes associated with knowledge creation and sharing. A particular line of enquiry in his work is how the intangible value exchanges that form part of collaborative processes can be documented.

Michelle Tuckey is a Professor of work and organisational psychology at the University of South Australia. She is interested in understanding the psychosocial aspects of how work and work environments influence well-being. Her focal areas are workplace bullying, occupational stress, sexual harassment and workplace mindfulness. Professor Tuckey's most significant contribution lies in fostering a fundamental shift in the way that workplace bullying is understood and tackled by organisations—from approaching it as an interpersonal problem where the emphasis is on responding to bullying behaviour, to addressing it as an organisational issue where the focus is on identifying and mitigating the root causes of bullying embedded within work environments, systems, and processes.

Ian Gwilt is a Professor of design at the University of South Australia. Current areas of research include the application of design in the context of health care and well-being, and the development of novel information visualisation techniques to facilitate the understanding of data for nonspecialist audiences. He is also interested in how we can incorporate visual communication design practices into interdisciplinary research teams using inclusive, participatory practices to facilitate knowledge translation, and to include community insight and lived experiences into the design and implementation of complex products, systems and services.

Niki Wallace is the Course Leader, MA Global Collaborative Design Practice at the Camberwell, Chelsea and Wimbledon Colleges of Art, University of the Arts London, and Director of Net Zero Lab. Niki works with regenerative and participatory processes to co-create experiments in just transitions and systemic change in consumption, waste, food and education.

References

- Ackoff, R. L. (1974) *Redesigning the Future*. New York: Wiley.
- Arnstein, S. R. (1969) A ladder of citizen participation, *Journal of the American Institute of Planners*, Vol. 35, No. 4, pp. 216–24.
- Brown, S. & Vaughan, C. (2009) *Play: How it Shapes the Brain, Opens the Imagination, and Invigorates the Soul*. New York: Avery.
- Burke, G., Alfrey, L., Hall, C. & O'Connor, J. (2021) Drawing with art-well-being: intergenerational co-creation with seniors, children and the living museum, *International Journal of Art & Design Education*, Vol. 40, No. 3, pp. 630–54.
- Burt, E. L. & Atkinson, J. (2012) The relationship between quilting and wellbeing, *Journal of Public Health*, Vol. 34, No. 1, pp. 54–9.
- Calvo, M. & Sclater, M. (2021) Creating spaces for collaboration in community co-design, *International Journal of Art & Design Education*, Vol. 40, No. 1, pp. 232–50.
- Cialdini, R. (1993) *The Psychology of Influence*. New York: William Morrow & Co.
- Daniels, K., Watson, D., Nayani, R., Tregaskis, O., Hogg, M., Etuknwa, A. & Semkina, A. (2021) Implementing practices focused on workplace health and psychological wellbeing: a systematic review, *Social Science & Medicine*, Vol. 277, 113888.
- Davis, A. (2019) Understanding the value of co-creation processes in the built environment, *Charrette*, Vol. 5, No. 2, pp. 8–21.
- Davis, A., Gwilt, I., Wallace, N. & Langley, J. (2021) Low-contact co-design: Considering more flexible spatiotemporal models for the co-design workshop, *Strategic Design Research Journal*, Vol. 14, No. 1, pp. 124–37.
- Davis, A., Wallace, N., Gwilt, I. & Tuckey, M. (2022a) Valuing processes and outcomes: a framework for planning co-design in complex systems of health design [preprint], *The Evolving Scholar*|ARCH22.
- Davis, A., Wallace, N., Gwilt, I., Ledtischke, A. & Khoo, R. (2022b) Co-designing the future in complex systems, in D. Lockton, S. Lenzi, P. Hekkert, A. Oak, J. Sádaba & P. Lloyd [Eds] *DRS2022: Bilbao*, 25 June–3 July, Bilbao, Spain.
- Dhadphale, T. & Wicks, B. (2022) Participatory stakeholder engagement in design studio education, *International Journal of Art & Design Education*, Vol. 41, No. 4, pp. 589–602.
- Ferne, M. (2020) *The LSP Method: How to Engage People and Spark Insights Using the LEGO® Serious Play® Method*. Carson City: Lioncrest Publishing.
- Ferro, C. S., Arredondo, I. A., Rodriguez, C. M. & Nadal, D. H. (2020) Active learning in architectural education: a participatory design experience (PDE) in Colombia, *International Journal of Art & Design Education*, Vol. 39, No. 2, pp. 346–66.
- Geeves, A., Jones, S., Davidson, J. W. & Sutton, J. (2020) Between the crowd and the band: performance experience, creative practice, and wellbeing for professional touring musicians, *International Journal of Wellbeing*, Vol. 10, No. 5, pp. 5–26.
- Grady, C., Dickert, N., Jawetz, T., Gensler, G. & Emanuel, E. (2005) An analysis of U.S. practices of paying research participants, *Contemporary Clinical Trials*, Vol. 26, No. 3, pp. 365–75.
- Graeber, D. (2001) *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams*. New York: Springer.
- Hacking, S., Secker, J., Kent, L., Shenton, J. & Spandler, H. (2006) Mental health and arts participation: the state of the art in England, *Journal of the Royal Society for the Promotion of Health*, Vol. 126, No. 3, pp. 121–7.
- Herzberg, F., Mausner, B. & Snyderman, B. (1959) *The Motivation to Work*, 2nd edn. New York: John Wiley.
- Huotilainen, M., Rankanen, M., Groth, C., Seitamaa-Hakkarainen, P. & Mäkelä, M.

(2018) Why our brains love arts and crafts: implications of creative practices on psychophysical well-being, *FormAkademisk - Forskningstidsskrift for Design Og Designdidaktikk*, Vol. 11, No. 2, pp. 1–18.

International Association for Public Participation (IAP2) (2014) *IAP2's Public Participation Spectrum*. IAP2 International Federation.

Irwin, T., Tonkinwise, C. & Kossoff, G. (2022) Transition design: the importance of everyday life and lifestyles as a leverage point for sustainability transitions, *Cuadernos Del Centro de Estudios En Diseño y Comunicación. Ensayos*, Vol. 105, pp. 73–106.

Kramm, M. (2020) When a river becomes a person, *Journal of Human Development and Capabilities*, Vol. 21, No. 4, pp. 307–19.

Langley, J., Wolstenholme, D. & Cooke, J. (2018) 'Collective making' as knowledge mobilisation: the contribution of participatory design in the co-creation of knowledge in healthcare, *BMC Health Services Research*, Vol. 18, 585.

Lee, H. & Park, J. E. (2021) Designing a new empathy-oriented prototyping toolkit for the design thinking process: creativity and design sensibility, *International Journal of Art & Design Education*, Vol. 40, No. 2, pp. 324–41.

Malmqvist, E. (2019) "Paid to endure": paid research participation, passivity, and the goods of work, *The American Journal of Bioethics*, Vol. 19, No. 9, pp. 11–20.

Manzini, E. & Coad, R. (2015) *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge: MIT press.

Manzini, E. (2011) *Design Schools as Agents of (Sustainable) Change: A Design Labs Network for an Open Design Program*. Milan: DESIS Network.

Maslow, A. (1943) A theory of human motivation, *Psychological Review*, Vol. 50, No. 4, pp. 370–96.

Mauss, M. (2002) *The Gift: The Form and Reason for Exchange in Archaic Societies*. London: Routledge.

Max-Neef, M. A. (1991) *Human Scale Development: Conception, Application and Further Reflections*. New York: Apex Press.

McDonald, M. W., Hayward, K. S., Rosbergen, I. C. M., Jeffers, M. S. & Corbett, D. (2018) Is Environmental Enrichment Ready for Clinical Application in Human Post-stroke Rehabilitation? *Frontiers in Behavioral Neuroscience*, Vol. 12, 135.

McGinley, T. & Nakata, K. (2012) *A Participatory Design Approach to the Wicked Problem of Designing Sustainable Communities*. The Technologies for Sustainable Built Environments Engineering and Design Conference. Reading, UK.

Parsons, M., Fisher, K. & Nalau, J. (2016) Alternative approaches to co-design: Insights from indigenous/academic research collaborations, *Current Opinion in Environmental Sustainability*, Vol. 20, pp. 99–105.

Rodela, R. (2011) Social learning and natural resource management: The emergence of three research perspectives, *Ecology and Society*, Vol. 16, No. 4, pp. 1–18.

Rogstadius, J., Kostakos, V., Kittur, A., Smus, B., Laredo, J. & Vukovic, M. (2021) An assessment of intrinsic and extrinsic motivation on task performance in crowdsourcing markets, *Proceedings of the International AAAI Conference on Web and Social Media*, Vol. 5, No. 1, pp. 321–8.

Saavedra, J., Pérez, E., Crawford, P. & Arias, S. (2018) Recovery and creative practices in people with severe mental illness: Evaluating well-being and social inclusion, *Disability and Rehabilitation*, Vol. 40, No. 8, pp. 905–11.

Sanders, E. & Stappers, P. J. (2008) Co-creation and the new landscapes of design, *Co-Design*, Vol. 4, No. 1, pp. 5–18.

Sanders, E. & Stappers, P. J. (2012) *Convivial Toolbox*. Amsterdam: BIS Publishers.

Sanders, E. B.-N., Brandt, E. & Binder, T. (2010) A framework for organizing the tools and techniques of participatory design. *Proceedings of the 11th Biennial*

Participatory Design Conference on -PDC '10, 195 <https://doi.org/10.1145/1900441.1900476>

Sangiorgi, D. & Prendiville, A. (2017) *Designing for Service: Key Issues and New Directions*. London: Bloomsbury Press.

Schatz, L. & Rogers, D. (2016) Participatory, technocratic and neoliberal planning: an untenable planning governance ménage à trois, *Australian Planner*, Vol. 53, No. 1, pp. 37–45.

Schön, D. (1983) *The Reflective Practitioner*. New York: Basic Books.

Sennett, R. (2012) *Together: The Rituals, Pleasures and Politics of Cooperation*. New Haven: Yale University Press.

Steen, M. (2013) Co-design as a process of join inquiry and imagination, *Design Issues*, Vol. 29, No. 2, pp. 16–28.

Steen, M., Manschot, M. & Koning, N. D. (2011) Benefits of Co-design in Service Design Projects, *International Journal of Design*, Vol. 5, No. 2, pp. 53–60.

Tierney, G., Horstman, T. & Tzou, C. (2021) Youth co-design of responsive digital badge systems: Disrupting hierarchy and empowering youth, *CoDesign*, Vol. 17, No. 3, pp. 313–29.

Wallace, N., Davis, A. & Gwilt, I. (2021) Wellbeing through participation: Creativity and co-design as processes of “welldoing”, *NiTRO*, Vol. 35, pp. 1–6.

Zhao, Y. C. & Zhu, Q. (2014) Effects of extrinsic and intrinsic motivation on participation in crowdsourcing contest: A perspective of self-determination theory, *Online Information Review*, Vol. 38, No. 7, pp. 896–917.