Material-Led Thinking as a Practice of Care: A Strategy from Art and Design Education

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Abstract
In this paper, we present an online workshop that uses making as a strategy to reveal new insights and facilitate interdisciplinary collaboration. The paper is intended to start conversations about different forms of material engagement in learning environments, and how artists and designers can use material approaches to respond to complex challenges, such as care. Our aim for this material-led workshop was to encourage students to engage with care as a topic of critical analysis by adopting making as a way to think about this abstract concept. As educators, we also experimented with making as a strategy to create a caring learning environment. Our analysis identified that the workshop fostered inclusive collaboration, sparked stimulating conversations, connected theory and practice, and created experiences and spaces of care. We discuss our findings based on three categories: care as a subject of art and design education, care through teaching and care through making. We also consider how the workshop might be different in physical spaces and propose aspects that we can incorporate in future iterations, such as having more time to learn about the objects created. The workshop can serve as a model and be applied to explore other abstract concepts in various contexts and is relevant to professionals interested in making and applying similar approaches in their practice.

Author keywords
Care; Making; Art and Design; Inclusive collaboration; Interdisciplinarity; Material engagement.

Introduction
The Royal College of Art delivered, for the first time in 2022-23, AcrossRCA, a college-wide unit in which students collaborated across different master programmes to respond to challenges of complex, uncertain and changing physical and digital worlds. Students chose one of four inaugural themes to address: being digital, caring society, climate crisis, and justice, equality and misinformation. These themes encouraged students to expand their knowledge beyond discipline-specific dimensions and were broad enough to encompass several interpretations. The unit launched with a series of theme-related expert talks, followed by sessions on academic and research skills. Throughout the unit, students also attended small group tutorials where they interacted with peers and received support to reflect on the critical, innovative, and responsible ways creative practices can answer the selected themes.

As tutors for the caring society theme, we developed a series of activities in our group tutorials to encourage students to explore synergies between art, design and care. Although there are many ways to promote creative explorations at this intersection in education (Tan, 2019), we argue that making can prompt new ways of engaging with care as a concept. It can encourage independent thinking, stimulate conversations, and facilitate collaborative critique. Making, as in handling

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materials and creating physical objects, can be particularly relevant as a form of idea generation and communication for interdisciplinary teams at the beginning of the creative process. It can also be used as a neutral, collaborative approach that is not dominated by a particular discipline and does not rely on verbal expression and language. From that perspective, there are five different ways in which we propose care can be investigated. They are grouped into three categories:

- **Care as a subject of art and design education**, in which (1) care can be a topic of critical analysis (what it means, what societal issues this includes, how creatives contribute to caring practices), and (2) care as an art and design objective (how student projects can respond to the theme of care).
- **Care through teaching**, in which (3) making can be used as a way to think about abstract concepts, such as care, or (4) making can act as a means to create a caring learning environment (spaces of care, inclusive education).
- **Care through making**, for instance, (5) craft use in therapy and other healthcare settings.

These three categories emerged from our interpretations of the theme of care, the literature review, and the development of activities for our tutorial sessions. One of the activities we developed and delivered was a workshop in which we used material-led thinking to encourage students to explore synergies between art, design, and care. For this workshop, we were particularly concerned with points (1) exploring care as a topic of critical analysis, (3) employing making as a way to think about this abstract concept, and (4) making as a way to create a caring learning environment. This paper is intended to start conversations about different forms of material engagement in learning environments and how artists and designers can build material approaches into their creative practices.

The paper begins with a literature review on the generative potential of making to reveal new insights, how it has been adopted in practices of art, design, and care, and how material handling can be used as a tool in education. We then describe the workshop structure, activities, and how we analysed the data generated to construct the four themes guiding our analysis: inclusivity, engagement, bridging theory and practice, and creating experiences and spaces of care. The paper concludes with a discussion of our findings in relation to the care categories introduced above and considerations for future iterations of the workshop.

Literature Review

Scholars have argued that material handling is key to opening new insights and critical understanding of the world around us. Bolt explores how this idea links to the notion of care (2006, para. 19), stating, “understanding is the care that comes from handling, of being thrown into the world and dealing with things.” She applies these concepts to her own artistic and educational practice, discussing how materials and processes are not only useful in the service of ideas but are “productive of ideas in their own right” (2007, p.33). Bolt’s concept of “material thinking” (2007, p.29) signals the importance of interaction, the intelligence of both the material and the artist resonating with each other, and the interrogation and experimentation with materials and processes as a starting point. In terms of cognitive development, humans are born to learn through interaction (McLeod, 2018). Specifically, with regard to the sense of touch, Leroi-Gourhan states, “the human hand is human… because of what it makes, not of what it is” (1993, p.240). For Hallam and Ingold (2014), too, material engagement is significant as a way for creative practices to be continually “generated and regenerated” (p. 179). In this way, making can be a method of reflecting on and contemplating abstract concepts, including care.

Within the context of arts and design education, Orr and Shreeve (2018) emphasise the significance of tacit knowledge, a term attributed to Polanyi (1967), who states this is “that which

we know but cannot tell" (p .4). Orr and Shreeve underline how 'doing' is a critical part of what it means to be human and therefore of crucial importance in learning. They state, "practice lies at the heart of art and design" and explain that practical learning is a valuable mode of idea generation. Akama et al. (2018) have applied these concepts in an educational setting in workshops that use making as a collective activity to facilitate disruption. They found that more dynamic and physical approaches over theoretical approaches to thinking created a more educationally flexible space as a way of critically reflecting on idea generation. A similar emphasis is found in artistic educational philosophy, where there is consensus on the criticality of practice-led research.

Making has been used to support care through occupational and other forms of therapy. Pöllänen (2009) documents the therapeutic effects of craft, which are similar to the impact of making outlined above, and which resonate with the pedagogical objectives and student experiences of the workshop described in this paper. The act of making, including engaging with materials and other people, and the satisfaction of producing an object are both considered therapeutic. Craft can be a "catalyst for emotional experiences and cognitive processes" and is thought to create "a safety zone which makes it possible to analyse events and situations in life, difficult emotions and experiences from a symbolic distance" (p.139). Other therapeutic uses of craft include skills development, rehabilitation, recreation, and pleasure (Pöllänen, 2009).

Making has proven valuable at the intersection of creative practices and care for related reasons. Designers use collaborative making in participatory design processes with vulnerable groups to elicit information, externalise complex and challenging subjects, and facilitate contributions in a way that supports participants to feel safer and more comfortable. For example, in a project about miscarriage and journeys of care, Raman and French (2022) invited participants to use craft materials and pre-prepared 'charms' to visualise their emotions and experiences. The objects they created became metaphors and tools for sharing their stories with each other and health professionals. Similarly, in a project about cross-cultural design in rural China, making facilitated non-verbal communication, allowing participants to create "artefacts which became mirrors for local people to reflect their own culture" (Wang et al., 2020, p.243). Hands-on making is recognised to render the participatory design process more accessible and democratic. Rather than working in abstract design terms to develop proposals that will be realised after a co-design workshop or with team dynamics that prioritise designer and professional expertise, a craft approach allows for more immediate, tangible outputs and values everyone's ability to make (Hansson & von Busch, 2022). Designers have also created craft experiences to support people with dementia to live fuller lives (Kenning et al., 2017). While these examples outline the benefits of making for building empathy and sharing personal perspectives in practice contexts, they also invite us to consider how this form of hands-on engagement can be applied in educational environments to reveal new insights about care both as pedagogical practice and as a topic of study.

Methodology

Given that interacting with materials enables ideas to emerge and stimulates critical analysis, we developed a workshop to challenge students' understandings of care and support them in investigating the practical and philosophical dimensions of health and well-being. We also wanted to experiment with creating a caring learning environment and reflect on how the process of thinking through making could be incorporated into our learning and teaching practices.

Workshop Overview

A total of 63 students in our tutorial groups participated in a two-hour workshop (we mixed students from three tutorial groups). The workshop was originally intended to be in person, but because of public transport disruptions, we delivered it online. We provided written instructions for students to digest ahead of time, containing an overview of the objectives and short descriptions of the planned activities. In addition, we asked students to prepare the following:

- **A word** that captured their experiences and knowledge of care. For example, this could be a word that describes an emotion, a problem, a solution, etc.
- **Materials for making** so that they could quickly create a few small, three-dimensional objects during the workshop. These could be materials students had around home, college or found objects.
- **A workspace** at home, college, or wherever was convenient and comfortable for making during the workshop.

We used Zoom as the online platform for the workshop. It started with a brief introduction, with everyone together. Then we conducted the following activities:

- **Making.** Using the breakout feature on Zoom, we divided students into groups of three and four for a making session. The instructions were for students to start by sharing their word representing care with each other, explaining how they chose it and what it meant to them. Part of this process was to listen carefully to others and consider how they interpret other people's words in light of what emotions, meanings, and thoughts came up for them. After that, they spent time making something that represented one or more of the words. During this time, cameras were kept on, focusing on the students' hands and the things they were making.
- **Reflection on concepts of care.** In the same groups, each student had a few minutes to explain what they created, how it reflected care, and what they heard from others. They compared their interpretations of care as a group and reflected on the similarities and differences of individual approaches and understandings. We provided some prompt questions to support the reflection, such as 'what is it about your forms that you feel expresses these words of care?' This could be answered through the form their interpretation had taken and the sensory process involved in the actual making.
- **Reflection on process and conclusion.** For the final section of the workshop, students were divided into three larger groups. With the support of a tutor in each breakout room, they reflected on three topics: thinking through making, spaces for creativity and caring, and redesigning the workshop for others.

During the 'reflection on the process' section of the workshop, we used Jamboards to facilitate the discussion. Students contributed anonymously to the boards by adding comments and reflections using digital sticky notes. We also shared links for students to access the boards after the workshop and invited them to add any additional considerations.

Data analysis and limitations

We followed the principles of reflexive thematic analysis (Braun & Clarke, 2019) to engage thoughtfully with the data generated from the workshop and our notes. The analysis process consisted of reading the Jamboards to become familiar with the overall content of the group discussions and then discussing our initial impressions and identifying information relevant to our workshop objectives. Finally, we collated our interpretations of the overall data to construct themes that captured this reflexive process. We acknowledge the subjectivity of our analysis and are aware of the influence of personal bias on the themes' conceptualisation. We are also mindful that our conclusions are based on a relatively small-scale workshop conducted with a group of art and design postgraduate students. Therefore, by sharing our findings from this experience, we hope our contributions inform further iterations and applications of this material-led strategy.

Findings

The data analysis produced four themes. Although the workshop objectives were centred around exploring students' perceptions of care, experimenting with a caring learning environment, and reflecting on integrating thinking through making, the analysis revealed that the identified themes connect with the five ways we suggested care could be investigated. The first two themes (inclusivity and engagement) respond to point (4) making as a means to create a caring learning environment. The second two themes (bridging theory and practice and creating experiences and spaces of care) respond to points (1) care as a topic of critical analysis and (3) making as a way to think about abstract concepts. The final theme also touches on points (2) care as an art and design objective and (5) the use of craft in therapy, as students analysed how they could apply creative skills to potentially contribute to caring practices.

Inclusivity

The workshop format supported an inclusive learning environment by prioritising non-verbal communication through making, by being online and encouraging students to join the workshop from convenient and comfortable working spaces, and by providing students with written instructions to digest beforehand. This removed some barriers to learning that language or background might implicitly present.

Engagement

Several students discussed the workshop's positive effect as a space that created an engaged and relaxed setting. The focus on material exploration, and the intentional suggestion for students to focus their device's camera on the objects they were making, created a space for them to 'open up' in conversation or remain quiet with confidence. As an overall experience, students reflected on the workshop as 'therapeutic', 'immersive' and 'engaging'.

Bridging theory and practice

Abstract concepts of care introduced through the course and by the students in the workshop, such as 'empathy,' 'kindness', or 'support,' were first thought through the process of making. Students reported that 'complex ideas' were made 'tangible' and 'feelings' were easier to 'translate.' It reduced the challenge of having to think of something to say on a topic and allowed them to explore making as a non-verbal form of expression, to let 'the materials guide them' and 'just start somewhere.' In addition, the material-led approach successfully opened a space where words and speaking could be used as a reflective tool in evaluation rather than in the initial development of ideas.

Creating experiences and spaces of care

Issues of care can be emotionally overwhelming. One student reported that during the workshop, the feeling of being creative 'gives hope and a sense of freedom.' Others found that the materiality was 'stimulating' and could be a good distraction and even therapeutic. Asking students to create their own workspace also helped them to reflect on what spaces of care could look like and how this knowledge might translate to other spaces, such as hospitals.

Discussion and Conclusion

Tutoring in a college-wide unit with a focus on interdisciplinary collaborations to respond to contemporary issues presented an opportunity to reconsider our pedagogical approach. We created a material-led workshop to encourage critical thinking and explore care from multiple angles. This strategy fostered inclusive collaboration, initiated critical discussions of care, connected theoretical concepts to practical applications, and generated a caring learning environment. These findings are linked to the three care categories outlined in the introduction.

Care as a subject of art and design education. The workshop is an example of how intuition, materiality, and touch are important modes of idea development and a way of linking practice and theory (Orr & Shreeve, 2017). Although material practice has the potential to reveal new

insights and possibilities, it is not often used as the starting point for idea generation. Over the past few years, it has become more evident to us that students rarely adopt (and are rarely asked to adopt) making as a method of idea generation at the starting point in collaborative projects. Rapid transitions to online learning and teaching to overcome Covid-19 pandemic restrictions might have influenced this phenomenon. For instance, in some cases, students had to navigate limited access to resources by developing projects only at a conceptual level. Bolt (2010) identifies a risk when conceptual and theoretical discussions prevail over making in academic realms. That is, material handling may be used only to demonstrate ideas already formed instead of as a way to generate ideas.

Care through teaching. This experience taught us that material-led workshops could foster non-hierarchical student-teacher relationships due to the relaxed and explorative nature of material engagement. For example, a playful atmosphere can build confidence and trust showing that a caring space can emerge through material connectivity. Open-ended exercises can also let students express themselves with less fixation on delivering a finalised idea.

Our workshop created a common starting point, unconstrained by disciplinary silos. By encouraging independent thinking and stimulating conversations, we created a supportive environment for diverse identities and ideas to emerge through material expression, cultivating qualities like courage and confidence.

Care through making. The workshop was an opportunity to reflect on how care through making could be used as a model, adaptable to other contexts and topics. We believe it would be suitable for exploring other abstract concepts, where making serves to express feelings, emotions, and impressions rather than to represent more concrete proposals for design outcomes. None of the objects created in this workshop represented final pieces, technical experiments, design products, services or systems of the kind art and design students are commonly expected to develop. The same activity could therefore be applied to the other themes of AcrossRCA to initiate conversations around, for example, being digital, climate anxiety, justice and equality. It could also be applied more broadly and outside of the academic realm by creative practitioners keen to use making to reveal new insights.

Overall, the workshop generated a space to challenge understandings and facilitate collaborative critique of care. However, there are considerations of advantages and limitations if it was delivered in person. A physical space could offer neutrality for collaboration and co-creation, as well as better visibility of what others were making. Meeting in person could have some limitations, such as space availability, accessibility, as well as the potential inability for people to customise their own workspace. One suggestion for an in-person version of the workshop would be to standardise materials for all participants, such as providing everyone with clay to create a greater sense of community. Therefore, both online and in-person modes of engagement have pros and cons, although employing material-led thinking in both spaces is possible.

Finally, during the workshop, we observed that when we switched from making to a more standard form of online learning by using Jamboards, we perceived a shift in the energy and engagement of the students. From that, we inferred that students would have preferred more time focused on making rather than shifting back to a more traditional online learning environment.

In future iterations, we could integrate reflections throughout the term to gather feedback from students on the workshops' impact on the AcrossRCA unit. We only have anecdotal evidence from final assessments, some of which incorporated activities like workshop plans and public service campaigns using making as therapy. It could also be useful to learn more about the objects students created by having them submit pictures with a few sentences about their thinking.

In conclusion, the process of creating and facilitating the workshop described in this article has been a valuable and fulfilling experience. The positive outcomes and insights gained from using making as a strategy have motivated us to continue exploring its potential applications in teaching and interdisciplinary research collaborations.

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References

Akama, Y., et al. (2018). Strategies for Disruption. In Y. Akama, S. Pink, S. Sumartojo (Eds.), Uncertainty and Possibility: New Approaches to Future Making in Design Anthropology (pp. 59-80). London: Bloomsbury Academic

Barrett, E., & Bolt, B. (2007). Practice as Research: Approaches to Creative Arts Enquiry. In B. Bolt, Magic is in Handling (pp27-34). London: I. B. Tauris.

Bolt, B. (2006). Materializing pedagogies. Working Papers in Art and Design, 4. http://sitem.herts.ac.uk/artdes_research/ papers/wpades/vol4/bbfull.html

Hallam, E., & Ingold, T. (2014). Making and Growing: Anthropological Studies of Organisms and Artefacts. London: Routledge

Hansson, H. & von Busch, O. (2022). Co-crafting the social: Material manifestations through collaborative crafts. CoDesign, 1-15. https://doi.org/10.1080/15710882.2022.2138448

Heidegger, M. (1996). Being and Time. (J. Stambaugh, Trans.). Albany: State University of New York Press. (Original work published 1927)

Kenning, G., Treadaway, C., Fennell, J., Prytherch, D., & Walters, A. (2017). Craft as purpose: Co-design for people living with advanced dementia. In K. Seemann, & D. Barron, D. (Eds.), Proceedings of the 4th International Conference on Design4Health Melbourne (pp. 122 – 124). https://research.shu.ac.uk/design4health/publications/2017-melbourne-conference-proceedings

Leroi-Gourhan, A. (1993) Gesture and Speech. (A Bostok Berger, Trans.). Cambridge: MIT Press. (Original work published 1964)

Mcleod, S.A. (2018). Jean Piaget's theory and stages of cognitive development. Simply Psychology. http://www.simplypsychology.org/piaget.html

Orr, S., & Shreeve, A. (2018) Art and Design Pedagogy in Higher Education: Knowledge, Values and Ambiguity in the Creative Curriculum. London: Routledge

Polanyi, M. (1967). The Tacit Dimension. London: Routledge & Kagan Paul

Pöllänen, Sinikka. (2009). Craft as therapy and therapeutic activity. In L.K. Kaukinen (Ed.), Proceedings of the Crafticulation & Education Conference (pp. 138-144). NordFo.

Raman, S. & French, T. (2022). Participatory design in sensitive contexts: A proposal for a conceptual framework. The Design Journal, 25(5), 752-767. https://doi.org/10.1080/14606925.2022.2088091

Wang, W., Bryan-Kinns, N. & Sheridan, J.G. (2020). On the role of in-situ making and evaluation in designing across cultures. CoDesign, 16(3), 233-250. https://doi.org/10.1080/15710882.2019.1580296