Co-production and arts-informed inquiry as creative power for knowledge mobilisation

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Background: Interest in using arts-informed approaches within research to increase stakeholder engagement is growing; however, there is little work describing how these approaches are operationalised across contexts. This article addresses that gap by exploring the use of arts-informed approaches across three projects.

Aims and objectives: We explore how conceptualising research and evaluation as creative endeavours, particularly in arts-informed approaches to co-production, create opportunities to move knowledge into action (knowledge mobilisation). We propose an actionable configuration of context + mechanism = outcome (CMO) to understand the influence of arts-informed approaches to co-production.

Methods: Multi-case design and cross-case synthesis was conducted of three studies that used arts-informed approaches. A common focus across our cases was evidence use in the K-12 education sector; however, each engaged with this focus by involving different types of evidence and sets of education stakeholders.

Findings: Arts-informed approaches and co-production were influenced by a variety of contextual factors such as relationships between researchers and stakeholders, ethical issues of collaborative research activities, approaches to meaningful stakeholder engagement, co-production of knowledge, capacity-building support and resources, and communication between multi-stakeholder partners. Outcomes included new ways of thinking about research topics based on arts-informed approaches, more positive attitudes about co-production, more relevant and useful research and evaluation findings, and increased openness to future co-productive work.

Discussion and conclusions: Four propositions arising from this article include: (1) arts-informed approaches address context specificity and sensitivity; (2) arts-informed approaches promote engagement; (3) arts-informed approaches enhance and intertwine skills; (4) arts-informed approaches broaden thinking about impact.

Key words co-production • arts-informed research • knowledge mobilisation
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Key messages

- Arts-informed approaches address context specificity and sensitivity.
- Arts-informed approaches promote engagement.
- Arts-informed approaches enhance and intertwine skills.
- Arts-informed approaches broaden thinking about impact.

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Introduction

The struggle to make research and evaluation useful in policy and practice across sectors has been at least four decades in the making (for example, Weiss, 1979; Patton, 2008). As the field of inquiry known as knowledge mobilisation (KMb) has matured, it has become increasingly evident that traditional research approaches and artifacts – such as long, uninspired reports or articles held behind publisher paywalls – are often insufficient to move the evidence-use needle in public service sectors (Nutley et al, 2007; Boaz et al, 2019).

Recent KMb scholarship argues that co-productive relationships between researchers and stakeholders can generate creative solutions and dynamic representations that stir action (for example, Sherriff et al, 2019). However, for those engaging in or considering co-production, there remains limited guidance regarding the contextual factors to pay attention to, the mechanisms by which co-production creates the potential for changing systems, or the potential outcomes of specific combinations of mechanisms firing under different contextual factors (Voorberg et al, 2015; Oliver et al, 2019). A core challenge is that despite co-production being described as a process that enables or encourages creativity in research and evaluation (for example, Wyborn et al, 2019), few studies have engaged with the arts as a catalyst for creativity. Addressing this knowledge gap is crucial for providing lessons about the generative power of co-production ‘to engage with practitioners more deeply and on more equal terms’ (McCabe et al, 2021: 22).

This paper advances the representation and practice of co-production by presenting empirical cases of research and evaluation that utilised the arts to challenge prevailing values and norms and facilitate alternative means of expression in collaborative work. We explore how conceptualising research and evaluation as creative endeavours, particularly in the co-production of dynamic knowledge products, creates opportunities to move knowledge into action. The following question guided our investigation: what role does the creative practice of arts-informed approaches play in generating outcomes (desirable or undesirable) in co-production? To address this question, we employ a realist perspective to analyse three cases of co-production that used arts-informed approaches in the Canadian education sector, and then look across cases to examine context-mechanism-outcome patterns (Pawson and Tilley, 1997), crystallising broader implications about the praxis of co-production.
Background

Co-production and the arts

Co-production represents a process, one that is both social and political (Beckett et al., 2018), where stakeholders ‘are regarded as active agents and not merely passive subjects or recipients of services’ (Heaton et al., 2016: 3). With stakeholders as active agents, co-production creates opportunities for ‘research as a creative endeavor, with strong links to design and the human imagination’ (Greenhalgh et al., 2016: 406). Patton (2008) defined stakeholders as ‘people who have a stake – a vested interest – in evaluation [and research] findings’ (Patton, 2008: 61). Over time, the sphere of who might be considered a ‘stakeholder’, and thus who might be involved in co-production, has expanded in response to the need for local learning to address increasingly complex societal challenges (Boaz et al., 2021).

Artful practices are established in some areas of research to promote meaningful reflection, understanding, and representation of individual and communal experiences. In the field of educational research, the arts are well established as a mode of inquiry (for example, Barone, 2008; Ewing and Hughes, 2008; Moss and O’Neill, 2017). The arts are also becoming well established in health research, particularly in Canada (Kukkonen and Cooper, 2019). Beyond health and education, some evaluators are also using arts to respond to evaluation questions, generate pluralistic data, and represent a full spectrum of programme experiences (for example, Constantino and Greene, 2003; McClintock, 2004; Simons and McCormack, 2007; Searle and Shulha, 2016). Creativity, which is inherent in artful practices, is widely recognised as an interactively negotiated phenomenon and thus is enhanced through collaboration (Sawyer and DeZutter, 2009). It stands to reason, then, that the process of co-production among researchers, evaluators, and stakeholders can be augmented using artistic tools and practices. While gaining credibility, examples of the arts in co-production are still more commonly found in presentations of practice and reporting than in published pieces that examine the theory or implications for KMb.

Arts-informed approaches in research and evaluation

The arts offer a distinct way of seeing (Barone, 2008) and ‘there is growing interest in the use of arts-informed approaches for public engagement with research but a lack of systematic and consolidated learning about their use and effectiveness’ (Ball et al., 2021: 5). There are many arts-informed approaches within educational research (McNiff, 2008; Blaikie, 2013), practice-led research (Adams, 2014), narrative research (Connelly and Clandinin, 1990), arts-informed knowledge translation (Kukkonen and Cooper, 2019), photovoice (Liebenberg, 2018), scholarartistry (Shanks and Svabo, 2018), and arts-informed inquiry (Knowles and Cole, 2008), to name a few. In each instance, arts-informed approaches centre the systematic creation and application of the arts across phases of the research process, from initial conceptualisation to final representation of findings (for example, Cahnmann-Taylor and Siegesmund, 2008).

With arts-informed approaches, the artful process discussed in this paper, art-making is viewed as ‘bringing together the systematic and rigorous qualities of conventional qualitative methodologies with the artistic, disciplined, and imaginative qualities of
the arts’ (Knowles and Cole, 2008: 33). The arts thus play a supportive role within a holistic inquiry (Stanley, 2009), where the quality of the art is less important than the ways it informs understanding.

When thinking about creativity and co-production, artistic tools refer to skills enacted in a variety of genres that might include, but are not limited to, literary forms (for example, Barone, 2001), visual art (for example, Leavy, 2009), performance (for example, Fels and Belliveau, 2008), and dance or folk art (for example, Bagley and Cancienne, 2002). Although each genre has distinctive elements, they similarly encompass multiple creative processes and media as methods of reflecting, thinking, exploring and communicating. The arts, and arts-informed approaches in particular, have a core value of finding more effective ways to represent understanding, communicate experience, and engage people. In this way, there is a through-line linking co-production and arts-informed approaches, entwined around the relational and process aspects of researchers and evaluators creating meaning with stakeholders (Ball et al, 2021).

Conceptual framework

A realist perspective

Our realist perspective entails a focus on the underlying mechanisms of how arts-informed inquiry within co-production contexts can generate positive (and negative) outcomes for those involved. Realism eschews ‘the traditional epistemological poles of positivism and relativism’ (Pawson and Tilley, 1997: 55), recasting practice and policy questions of the ‘what works?’ nature to ‘what works, for whom, in what circumstances, and how?’ Researchers and evaluators have increasingly adopted this perspective in analysing social systems (for example, Sherriff et al, 2019; Norton et al, 2021), with its influence surfacing, for instance, in debates about evidence-based versus evidence-informed policy and practice (Culyer and Lomas, 2006). Realism respects that knowledge is always partial and conditional, and emphasises the mechanics of explanation in developing sensible lessons about social systems that can travel between settings (Pawson and Tilley, 1997). To construct these sensible lessons, realist analysts construct context–mechanism–outcome (CMO) configurations.

An actionable configuration

The process of developing and refining CMO configurations is fundamentally tied to expressions of the form context + mechanism = outcome. Constructing such expressions within a defined problem space is an abductive exercise of ‘mak[ing] observations of the empirical world and then hypothesiz[ing] possible generative mechanisms that could, if they existed, explain them’ (Mingers and Standing, 2017: 174). Here, we consider each CMO element with reference to recent work that synthesises the literature on research partnerships (Hoekstra et al, 2020) and arts-informed approaches to engaging diverse stakeholders (Searle, 2020; Ball et al, 2021). While we recognise that these areas of inquiry constitute a broader universe of potential CMO configurations (Figure 1) than might be observed at the intersection of co-production and arts-informed approaches,
we contend this vantage point is favourable for detecting patterns that might otherwise be overlooked.

**Contexts**

The idea that social and structural outcomes depend on the contexts in which they are embedded is not new (for example, Alkin, Vo and Christie, 2012; Kitson et al, 1998). However, only in recent years has it become common to treat context as more than a static backdrop for change efforts. Context is increasingly recognised to include ‘not only a physical location but also roles, interactions and relationships at multiple levels’ (Pfadenhauer et al, 2017: 6). On the one hand, this expanded viewpoint encourages a richer understanding of the relevant local, historical, and institutional factors at play. On the other, differentiating the context from the underlying mechanisms and describing its relevant elements can present methodological and practical issues (Marchal et al, 2012). The salient consequence from a realist perspective is that ‘what matters about context is what influences whether mechanisms operate, and which mechanisms operate’ (Westhorp, 2014: 6). To that end, we employ Hoekstra et al’s (2020) overarching principles of research partnerships, which convey the ‘fundamental norms, rules, or values [of

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**Figure 1: Universe of potential CMOs in cases of co-production**

| Contexts (Co-Production Principles – note: the second listed principle deals with meaningful engagement of stakeholders and respect for their varying experiences and knowledge) |
| --- |
| Relationships between researchers and stakeholders |
| Co-production of knowledge |
| Meaningful stakeholder engagement |
| Capacity-building, support and resources |
| Communication between researchers and stakeholders |
| Ethical issues of collaborative research activities |

| Mechanisms (Co-Production Strategies – note: we are focused on the underlying cognitive and affective responses they engender) |
| --- |
| Strategies throughout the research process |
| Relationships between researchers and stakeholders |
| Capacity-building, support, and resources |
| Communication between researchers and stakeholders |
| Strategies at specific phases in the research process |
| Planning the research |
| Conducting the research |
| Disseminating and applying the research |

| Outcomes (Co-Production Outcomes/Impacts – note: outcome/impacts at each level noted below can be positive or negative) |
| --- |
| On the researchers conducting partnership research (individual level) |
| On stakeholders involved in research partnerships (individual level) |
| On the relationship between researchers and stakeholders (partnership level) |
| On the community or society |
| On the research process |

*Note. The content presented under each element constitutes the highest level of classification in Hoekstra et al’s (2020) review.*
co-production]’ and are considered ‘more basic than policy and objectives and are meant to govern both’ (Hoekstra et al, 2020: 4).

**Mechanisms**

Perhaps the most misunderstood element of CMO configurations (Marchal et al, 2012), ‘mechanisms are underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest’ (Astbury and Leeuw, 2010: 367). Considered alongside Pawson and Tilley’s conceptualisation of a mechanism as ‘a theory which spells out the potential of human resources and reasoning’ (Pawson and Tilley, 1997: 68), we see that Astbury and Leeuw’s (2010) definition clarifies what mechanisms are not. First, they are not the same as programme activities, such as those commonly represented in logic models. For instance, whereas a programme activity could be a school-based professional development workshop that aims to promote evidence-informed practices, a mechanism might be the knowledge teachers gain about assessing the quality of different sources. Second, mechanisms are not the same as variables. Mechanisms serve an explanatory function, meaning they describe the relationships among variables but are often unobservable (Astbury and Leeuw, 2010).

We draw from Hoekstra et al’s (2020) strategies of research partnerships, focusing on the underlying cognitive and affective responses they engender. Moreover, we consider how artful approaches facilitate those responses through creative expression.

**Outcomes**

The final CMO element, outcomes, represents the proximal or distal, intended or unintended consequences of mechanisms firing in different contexts. Rather than view outcomes as discrete events isolated in space and time, Pawson and Tilley (2004) advise a focus on outcome patterns:

> This notion of ‘outcome patterns’ allows for a more sensitive evaluation of complex programmes. Hunting down outcome patterns may involve implementation variations, impact variations, socio-demographic sub-group variations, temporal outcome variations, personal attribute outcome variations, regional outcome variations, biological make-up outcome variations and so on. (Pawson and Tilley, 2004: 9)

Keeping with our focus on CMO configurations related to co-production, we consider outcome patterns with reference to Hoekstra et al’s (2020) outcomes and impacts of research partnerships.

**Methods**

**Multiple case study**

The multiple-case design and cross-case synthesis in this study offered an encompassing method to understand what can be learned from each case while also acknowledging that it is necessary to study ‘what is similar and different about the cases in order to understand the quintain [arts-informed approaches in co-production contexts] better’
While conducted separately, each case study was intentionally designed to explore, in varying degrees, the potential of co-production and arts-informed approaches for promoting shared understanding and action within educational environments. A common focus across our cases was evidence use in the education sector in Canada; however, each engaged with this focus by involving different types of evidence and education stakeholders. Hence, cases were selected for theoretical replication in that (a) they provided contrasting circumstances from which to consider CMO configurations, and (b) multiple and rich forms of data had been collected and analysed, ensuring each case offered an ‘opportunity to learn’ \cite{Stake2005} about co-production and arts-informed inquiry. Each author selected a case study from our respective research programmes (Table 1); accordingly, the pronouns we use in describing each case vary by the team composition.

In what follows, we briefly describe the background and methods for each case and then outline our approach to cross-case analysis.

### Case 1: Network for Evidence-Informed Policy and Practice

The Network for Evidence-Informed Policy and Practice (NEIPP), funded by the government in a North American jurisdiction, is an initiative to improve linkages between research evidence and policy and practice in the education sector. In Phase 1, lasting from 2010 to 2014, NEIPP funded 44 projects that pursued the ‘effective exploitation of available research building or extending networks; strengthening research brokering work; and/or visits by world-leading researchers’ \cite{Campbell2017}. In Phase 2, beginning in 2015, NEIPP began a network development phase involving four interconnected knowledge networks: mathematics, equity, well-being, and indigenous knowledge. These four networks brought together various partner organisations across the province, including universities, school districts, community organisations, and policymakers. The first of our three case studies occurred during this second phase.

With the aim of supporting ongoing adaptive development \cite{Patton2011}, we undertook a developmental evaluation (DE) of NEIPP. For this article, we focus specifically on data collected during a full-day capacity-building event held in early 2018. We proposed arts-informed approaches as a way to break from conventional thinking about their networks, and as an avenue to understand the networks in ways that surveys and interviews (although we conducted those as well) could not capture. With 60 participants (policymakers, funders, researchers, network leads, and school and community partners) in eight small groups, the event was organised as follows:

- **First**, we opened by presenting the evaluation’s purpose and scope followed by an invitation for the knowledge networks to share operational updates.
- **Second**, to prime the sharing and questioning of experiences and disrupt common perceptions of programme evaluation, we used an activity that got participants...
moving and discussing how they were engaging communities in their work; how they were connecting with researchers; and how the government’s role factored into the initiative given their supportive role beyond funding provision.

- Third, we facilitated two arts-informed activities (audio-recorded and transcribed verbatim): first inviting each small group to create and discuss visualisations of their networks’ goals, and second inviting them to develop concept maps of barriers and facilitators for their networks, using large poster paper to show the connections between ideas and potential entry points for change.

- Finally, we concluded the event with an open brainstorming session on hopes and hesitations about the evaluation, and how we could support diverse participation without creating undue burden.

**Case 2: Supporting Youth Mental Health and Well-Being**

In this case, arts-informed approaches supported understanding student experiences and school-wide engagement related to mental health and well-being (MHWB). There is an emphasis on new mental health professional (MHP) roles in schools to improve youth MHWB. MHWB is foundational to student success and provincial mandates where well-being is a positive sense of self, spirit and belonging that we feel when our cognitive, emotional, social and physical needs are being met. ([Government of Ontario, 2016](#)). The Ontario Ministry of Education provided funding to school districts with an expectation of formative evaluation ([Chen and Chen, 2005](#)). Initial funding was coupled with community grants to enable the hiring of a full-time MHP and an external team to conduct a collaborative approach to evaluation ([Shulha et al, 2016](#)) asking: what are the MHP processes and activities that support student MHWB in a school context? Shulha and colleagues’ collaborative approaches to evaluation (CAE) provide a set of eight interconnected and nonlinear principles that can guide inquiry between evaluators and stakeholders.

The CAE used mixed methods to generate novel insights about complex phenomena ([Dejonckheere et al, 2019](#)). For this article, we focus on data generated by more than 70 educators and 400 youth participants during two full-day sessions in winter 2018. The arts-informed engagement unfolded as follows:

- The day prior we trained student leader-researchers and set up. Set up included establishing an 8 x 20ft graffiti wall, a large art-making area for group collage, and setting up costumes, white boards and screening for a photo-booth ([Figure 2](#)).

- The day of curious students were greeted by members of the CAE (MHP, school leaders, student leader-researchers and external team) who assisted with data collection throughout the day in classrooms and through the arts-informed engagement.

- Once classes started, student leader-researchers, with a CAE member, visited classrooms for 20–25 minutes to host a group interview working off scripts to encourage student offerings that were recorded verbatim. Students also had postcards where they could anonymously record ideas, doodle or ask a question.

- The day culminated in a two-hour data party ([Rogers and Newhouse, 2021](#)) where student leader-researchers and members of the CAE collectively analysed data to provide perspectives, explanations and implications for action.
Figure 2: Images of arts-informed setup for MHWB activities
Case 3: Rural Artists-in-School Partnerships

Arts-informed approaches were employed in this case to (a) deepen understanding of the research phenomenon, and (b) mobilise the findings to study participants, rural arts education stakeholders, and broader audiences. The case study examined how five intermediary organisations operate to support rural artists-in-schools partnerships (that is, professional artists partnering with schools to deliver arts education) within Ontario and Quebec, Canada. The study adopted a hybrid research approach where art, play, and design converge with research (Shanks and Svabo, 2018). The research was carried out in the following steps:

- Interviews were conducted with organisation leaders and team members, as well as affiliated partners (for example, teaching artists, community partners, organisational partners). A total of 23 people took part in the semi-structured interviews, which centred on the organisations’ functions and contributions to rural artists-in-schools partnerships and programmes. Organisation team members were asked to articulate a metaphor that, in their view, describes the role of their organisation.
- Interviews were audio-recorded and subsequently transcribed.
- The data were analysed using a typical cross-case analysis procedure (that is, collating data from the individual cases into overarching themes).
- To expand the creative possibilities of what might emerge from looking across the cases, I (the artist-researcher) created composite vignettes (that is, synthesising the authentic words of participants into a unified narrative) for each case (Coholic et al, 2020).
- Inspired by the themes and vignettes, I experimented with illustration and design to identify relationships across the cases and represent the findings.

The result of this creative generativity is visible in Figure 3 through the creation of a board game entitled Rural Arts Intermediaries: A Game of Partnership Brokering.

Players of the game take on the role of organisations that aim to partner artists with rural schools. They are each given an ‘organisation card’ (Figure 4) that features the composite vignette associated with their organisation. To complete the game, players must gather different key resources and partners, and use strategies to overcome obstacles.

Cross-case analysis

Our cross-case analysis followed the case-oriented approach of process tracing (Khan and Vanwynsberghe, 2008). As not all authors were involved with each case, we began by mapping a progression of events for our respective cases using thick descriptions (Shenton, 2004) of the phenomena investigated. Each description involved charting the contextual factors of notable influence in each case, the observed proximal and distal outcomes, and the hypothesised mechanisms that contributed to generating those outcomes. We devoted heightened attention to the underlying mechanisms by disaggregating them ‘into a series of interlocking parts composed of entities engaging in activities’ (Schmitt and Beach, 2015: 431). Subsequently, through an iterative process of sharing, scrutinising, and fine-tuning our descriptions among members of the research team, we charted common CMO patterns across the cases, enabling new ways of portraying and thinking about the data.
Findings

In presenting each case, we return to our research question, exploring the role of arts-informed inquiry within instances of co-production for generating desirable or undesirable outcomes. Considering our realist perspective, we signpost where the CMO elements are represented in each case (see Table 2 for a summary), appreciating that mechanisms are often not directly observable and so our focus is on the actions hypothesised to engender cognitive and affective responses. We then present the findings from our cross-case analysis.
Several factors appeared to influence participants’ readiness to engage in co-productive efforts to develop shared aims and build capacity for the DE. While there appeared
Developmental evaluation (DE) is a continual, interactive, data-informed process to influence decision-making in emerging, rapidly evolving, innovative programs. DE frames learning as a form of accountability and asks: How do we translate our new understandings into program action? Our drawing shows evaluation as a bridge between diverse multi-stakeholder networks (left), and the DE team facilitating reflective processes through holding up a mirror back to the networks (right), and engaging leaders and participants in dialogue about change and improvement. The evaluative bridge becomes the umbrella, under which the knowledge networks exchange ideas in a non-linear, multiple directional flow of strategies.
Co-production and arts-informed inquiry as creative power for knowledge mobilisation

consensus that strong relationships were being developed within each network (see MacGregor and Cooper, 2022), concerns were aired early on about the depth of trust and transparency across the networks. Not only had each network been operational for a different duration of time, they were also independently grappling with highly divergent social-historical experiences with their partner organisations, the funder, and the broader education sector in Ontario (context). In order to introduce an arts-informed approach, we modelled the process (mechanism) by sharing and explicating an image our team created to depict DE (Figure 5).

After discussing the DE and its complementarity to NEIPP’s innovative efforts, we invited each table group to create their own visualisation of their networks and then share and describe the creations with the larger group (which we recorded and later transcribed verbatim). We will highlight two examples. The equity network created a multicoloured tent with many pathways to represent their work on diversity and inclusion (Figure 6).

During the discussion of the imagery for this network (mechanism), we learned that the network was facing barriers to access within the school districts, due to hesitation about confronting priority areas (for example, anti-racist education, refugee and newcomer education). We also learned that, while the network had ample resources to employ and thrived in many local communities, access to educators and students presented challenges depending on the specific issue.

The math network faced a different set of challenges. Their visualisation organised the networks’ efforts along three pillars: needs, inclusion, and changing teacher and student attitudes (Figure 7). The image depicted a chasm between needs and inclusion, showing that differential outcomes in math were often based on equity considerations such as socioeconomic status. They described their network as bridging this chasm (mechanism), engaging with classrooms all over the province around concrete lessons and professional development. We learned that, unlike the equity network, the math network was not contentious and, as such, access was not a problem. Instead, even though government priorities aligned strongly with the math network’s priority area, and even with millions of dollars in funding, their resources quickly outstripped a high demand within schools.

This co-productive activity unearthed network differences based on their age within the NEIPP initiative and past relationships between researchers and educators (outcome). Where previous relationships existed, or networks had been established in Phase 1 of the project, trust between partners was higher and more conducive to collaborative risk-taking. Where relationships were new or emerging, much of the work between researchers and partners focused on building or repairing trust prior to engaging in deeper co-productive processes. Moreover, through the artistic representations of their networks, we found that participants developed an enhanced sense of unity across the NEIPP networks, understanding one another’s experiences and perspectives in ways not previously well-articulated through annual reports and administrative meetings (outcome).

Case 2: Supporting Youth Mental Health and Well-Being

The context of the second case was just as complex as the first but quite distinct; the MHP role was distinguished as a first-ever formal joint district collaboration. It was designed to understand and address attitudes, act in a counsellor/consultative
Our work in terms of the equity network is really trying to build our capacity and establish a structure. So we chose the tent and it was a collaborative effort. If you trace the etymology of ‘tent’, it means to extend or stretch. So we are inviting people to come and join us in the tent. We are inviting them to stretch and extend the way in which they might imagine equity within their own communities. But also in terms of the tent we have different paths to the tent and if we look at the etymology of ‘paths’ it means to suffer from. So if we are talking about systemic barriers, several different communities within the schools like students and teachers are going to have systemic barriers that cause a certain amount of suffering for those individuals or communities. So we have five different paths to get to the tent which represent the five different themes of the network. But also thinking about the tent in terms of some of the conversations we’ve had today about sustainability and building capacity … Relationality is one of our key principles and so … is the kind of relationship you have outside of the tented place, similarly to what you have inside.
Our first one was we wanted to base all of our work on … similar to what we heard our … partners said here today…. We wanted to listen to what the teachers were saying to us from the classroom. So it wasn’t a model where we were going into the school and saying “here’s what we think you should try”. We didn’t want to come in and be proposing anything external to the school or methods for fixing the school… so a very key principle was this idea that … we wanted to engage in practices that were needs based, based in schools and being incredibly inclusive. So what you see is that we have quite a bit going on in terms of our French communities and our French partners. We have an Indigenous knowledge and mathematics community of practice and you have met some of our partners here today. We wanted to broaden the idea of participation both in gender and diversity in race and ethnicity. And finally, we wanted to change attitudes. We wanted something where mathematics was being celebrated with teachers and classrooms and families and it was a topic of discussion of interest rather than a struggle. And so those have been the three principles that have been guiding all of our work from the onset. Inclusion, attitudes, and needs based.
role with students, and facilitate parent as well as community engagement. The role included negotiating district priorities, encompassing Catholic and Public schooling across two regions, with a broad role description. Throughout this CAE, commitment from education and health sectors, as well as community, was unwavering and centred on a shared vision to leverage differing skills and experiences in support of student MHWB (context). CAE promotes the usefulness of evaluation by offering a pragmatic set of principles, designed to be enacted in a holistic and nonlinear way to promote co-production with stakeholders (Shulha et al., 2016). Many of the CAE principles map onto Hoekstra et al.’s (2020) strategies for research partnerships with similarities focused on developing relationships, setting expectations, using a variety of engagement strategies, and advancing action to shape system change. The CAE principles promoted inclusivity while leveraging expertise from varied perspectives and skill sets to embrace the dynamic conditions in this context (Poth, 2018). The network of prior relationships enabled us to position arts-informed approaches within this CAE as an opportunity for consciousness raising about youth MWHB.

In total, the CAE involved 33 stakeholders representing district leadership, school leadership, educators, the MHP, student leader–researchers, community organisations, and the evaluation team. A subset of seven stakeholders were involved in ongoing decision making with the five-person evaluation team, while other stakeholders flexed their involvement depending on the evaluation stage and activity (context). Co-production took place through shared ongoing communication focused on questioning, instrument development, data collection and joint analysis (mechanisms). Figure 8 illustrates stakeholder mapping, one of the participatory processes at a working session.

During this inquiry we learned that students were experiencing survey fatigue and were wanting to be part of the MHWB conversations, to develop strategies and contribute to stigma reduction (context). Involving student leader–researchers in the MHWB days showed how powerful their participation could be, and enabled
Figure 9: Postcards and records from classroom discussions at the data party and joint analysis
stakeholders to see the student-leaders as partners within the CAE. We discovered that involving student-leaders helped overcome student hesitations in ways that promoted engagement and inclusivity. Figure 9 shows the joint analytic activities with student leader-researchers and stakeholders. By incorporating student voice into the artful data collection and analysis, we affirmed students as active partners who enable education and community systems to better understand and support their needs (mechanism).

The visibility of arts-informed approaches made the MHP role discernible and provided an engaging approach for co-producing knowledge with, for, and about youth MWHB. Students enjoyed generating creative data and watching others contribute ideas, reminding us of what Patton (2015) called the fruits of qualitative inquiry, where meaning-making and connection further understanding. Through arts-informed approaches we increased our understanding of the lived experiences of students, and strengthened relationships by offering multiple pathways for contributions (outcome). Stakeholders suggested that incorporating the arts into our CAE offered a chance to gather new information and increase understanding about the MHP role and MHWB more broadly, while also contributing to seeing the applicability of research and evaluation in other contexts (outcome).

Case 3: Rural Artists-in-School Partnerships

The co-production process started with identifying key organisations and informants. Prior relationships with three of the five organisations assisted in recruiting participants (context). I had been an employee of two of the organisations and was acquainted with the leaders of the other organisation through personal contacts. A level of trust was established through their familiarity with me and my work, potentially influencing their decision to participate. The last two organisations were identified using a Google search protocol.

I kept in consistent communication with all participants throughout the research process (mechanism). Prior to the analysis phase, participants were invited to review their interview transcripts and make changes to their responses (that is, member-checking). Organisation leaders were also later asked to provide feedback on the composite vignettes to confirm their accuracy and tone. However, only 12 of the 23 participants responded about their interview transcripts, and three out of five organisational leaders corroborated the vignettes. Two of these organisations were the same ones with whom I had previous relationships. Many additional participants intended to review and respond, but never did. Given the limited timeline of doctoral research programmes, I was unable to wait indefinitely for responses. The wording of the invitations also gave participants permission to not respond if they felt the texts were complete and accurate.

The lack of participant response and engagement spoke to a common challenge in research co-production. Despite the opportunity to be more involved, not all participants were eager or able to devote additional time to the process (context). Hence, co-production in this case occurred primarily through the creation of the composite vignettes and the board game. For the former, the process of synthesising data into a re-storied format is common in narrative research (for example, Connelly and Clandinin, 1990). Researchers are present in the texts by way of consciously and/or unconsciously selecting and weaving together excerpts of data, thereby co-producing meaning with participants (Spector-Mersel, 2010). The vignettes
Co-production and arts-informed inquiry as creative power for knowledge mobilisation

consisted of the participants’ own words, but I chose which words to use and how to assemble them.

Similarly, the participants’ words informed the board game design and are infused in the content. For instance, the metaphors articulated through the interviews inspired the different organisational roles players can adopt in the game (that is, The Cultivator, The Weaver, The Bridge Builder, The Connector, The Spark Maker). The obstacles, resources, partners, and strategies discussed during the interviews are the same as those presented in the game (see Figure 4).

My hope is that the game will encourage organisational learning and development for organisations and associated stakeholders working in the field of rural arts education, as well as increase public awareness of their work and contributions. Future steps of my research include sharing copies of the game with the participants of the study, publishing the game for wider use, and inviting audience feedback. I have already presented aspects of the game to members of the Supporting Performing Arts in Rural and Remote Communities (SPARC) network, which generated interest among rural arts stakeholders (mechanism).

In terms of immediate outcomes, the processes involved in making the game had a profound influence on my own understanding of intermediary organisations, arts education partnerships, and rural arts education. For instance, the weaving together of participants’ words in the vignettes allowed for a more holistic picture of each organisation to emerge. The relationships between partners, resources, and obstacles in arts education collaborations became clearer as I envisioned them as cards with implications for how well the game is played. I now understand the particular obstacles involved with rural arts education (for example, costs, stakeholder buy-in) and the innovative approaches organisations are using to overcome those barriers (for example, sourcing local artists, fostering community ownership over projects). As a researcher, I have developed an expanded vision of what co-production can mean using arts-informed approaches (for example, participant voices infused into creative research processes and products). That said, I realise the need to engage study participants more from the start of the research process to encourage more feedback and response.

Cross-case analysis

As Figure 10 illustrates, our cross-case analysis surfaced two CMO configurations. The first CMO configuration involves how co-production and the arts enabled new ways of building mutual understanding among partners involved, leading to more positive attitudes about co-production. At the same time, it appeared that the practical costs of co-production using arts-informed approaches (for example, the financial costs and time requirements of in-person meetings to create visual displays) could also result in stakeholders feeling overburdened or developing antipathy about the process in general. The second CMO configuration concerns how arts-informed approaches throughout different phases of the co-production process (planning, conducting, disseminating, and applying) simultaneously ensured findings were relevant and useful, while seeding interest in future collaboration. However, once again, the contextual factors and mechanism could also induce negative outcomes, particularly the potential for co-production activities to appear tokenistic if organisational structures and norms crowded out meaningful engagement. We now consider these CMO configurations in turn.
Figure 10: CMOs from the cross-case analysis of co-production using the arts

| Context | Mechanism | Outcomes |
|---------|-----------|----------|
| Relationship between researchers and stakeholders | Arts-informed inquiry enabled new ways of building mutual understanding of co-productive goals | + more positive attitudes about co-production in research/evaluation |
| Ethical issues of collaborative research activities | | + promoted shared understanding of the issues being addressed and how those issues were felt differently by across the stakeholders involved |
| Meaningful stakeholder engagement | | - stakeholders may feel overburdened or develop a sense of antipathy towards the process depending on their familiarity with expressing themselves through the arts |

Note. We present three contextual factors that were particularly influential in the CMO patterns observed, yet we stress that many contextual factors were at play in each case.
Multiple shades of trust

In each case, the use of arts-informed approaches represented an effort to transcend conventional distinctions in knowledge production, mediation, and use to achieve more equal partnering in research and evaluation processes. In our cases, regardless of how co-production took shape, we found that positive outcomes hinged on a sense of trust among partners. Through the use of arts-informed approaches, we also identified several instances where it was inadequate to focus merely on building trust. Some stakeholders (for example, the NEIPP networks of Case 1) communicated through their artistic representations their experiences of negative outcomes in past collaborations and interactions with particular organisational partners. As a result, we were intentional about rebuilding trust and alleviating distrust, which left unaddressed may have caused future co-production strategies, and the concomitant mechanisms we intended to activate, to misfire or backfire. As Lucero et al (2018) highlight, ‘a partnership can begin at any type of trust, and it is up to the partnership to determine the type of trust necessary for its project’ (Lucero et al, 2018: 64). Our cross-case findings reaffirm Lucero et al’s position, but the general lack of empirically supported strategies for addressing different types of trust means that co-productive relationships may be limited in exploring the full spectrum of potential outcomes (see Hoekstra et al, 2020). Our cases highlighted the need for a coherent co-production praxis that can integrate scholarship and practice when addressing issues such as trust in research and evaluation, particularly when utilising methods with limited consolidated and systematic evidence such as arts-informed approaches.

Traversing the research process

Our cross-case analysis further illustrated how arts-informed approaches can traverse different phases of co-production processes, including planning (Case 1), data collection and interpretation (Case 2), and dissemination (Case 3). As Ball et al (2021) highlight, researchers often choose an arts approach ‘to find more effective ways of engaging stakeholders – particularly when a broad and diverse audience needs to be engaged with on complex or sensitive topics or when specific communities who may not find traditional research outputs accessible need to be reached’ (Ball et al, 2021: 7). Indeed, the desire for more effective stakeholder engagement motivated our use of arts-informed approaches, yet our cases demonstrate that such efforts need not be circumscribed to research outputs. Our cases illustrate that arts-informed approaches can promote artistic expression throughout co-production processes, as well as enable those expressions to shape the processes and what is learned. For instance, while Case 3 calls attention to how interactive dissemination products, such as board games, may help the broader public engage with research findings, Case 2 illustrates how the research process itself can transform through artistic expression by assuaging the limitations of traditional methods. However, in all cases, skilled facilitation was crucial and required the building of relationships with artists to effectively engage the arts in ways that would not be perceived as tokenistic or haphazard.

Discussion

Overall, considering both the individual findings from our three cases as well as the cross-case analysis, we have shown that arts-informed approaches in co-production
can generate both positive and negative outcomes at the level of individuals, partnerships, and the research process. We now discuss four propositions from this study that developed in relation to the nascent literature base in this area, drawing out implications for researchers, evaluators, and their co-production partners.

**Arts-informed approaches address context specificity and sensitivity**

Many contextual factors can influence the design, implementation, and success of arts-informed approaches to collaborative research projects and evaluations. Ball et al (2021) highlight a range of contextual factors such as the goals researchers aim to achieve (for example, to influence and inform the direction of the initiative and project), the types of facilities that ‘must be fit for purpose’ (Ball et al, 2021: 8), as well as governance and administrative infrastructure (for example, clarity of contractual arrangements, roles of different stakeholders involved, and data ownership and security). Context awareness is critical to success. Ball et al (2021) maintain ‘the design and delivery of arts-informed approaches for public engagement with research need to be done with sensitivity to the cultural, political and socio-demographic context in which a research topic is being explored and stakeholders engaged’ (Ball et al, 2021: 11). However, as the diversity of the cases presented in this article show, arts-informed approaches also transcend and are applicable across diverse contexts. The purpose and stakeholders involved influence the strategies that need to be employed, and feedback loops to assess and adapt throughout implementation are necessary to encourage reciprocity between stakeholders, especially between researchers and practitioners, policymakers, and community members. Kukkonen and Cooper (2019) identify an arts-informed knowledge translation framework that can assist researchers in thinking how goals, different art genres, partnerships, and impacts might align in different contexts.

**Arts-informed approaches promote engagement**

Creative tools and processes promote engagement by providing relationally focused experiences that generate opportunities for creative, joyful exploration that enables access to different ways of seeing (Barone, 2008). Engaging in playful processes, such as drawing, collage, or game playing provide opportunities for developing and strengthening relationships (Ball et al, 2021). Our cases demonstrate that through creative co-production processes, individuals can open up about their experiences and negotiate new ideas and ways of being while having a chance to reflect. We discovered that the time invested in creating and co-creating with others offers a different, and often deeper access to understanding their experiences and values. Levels of engagement are not static; they vary in the presence of prior relational experiences, and shift over time as creative co-production processes produce reciprocal spaces for meaningful exchanges. Arts-informed approaches promote engagement by inviting responsiveness, sensitivity and vulnerability within research and evaluation (Knowles and Cole, 2008). Thus arts deepen understanding by creating broad spaces for dialogue, where people take shared risks during an embodied experience (Leavy, 2009). Embodied experiences play a role in promoting engagement because the uniting of head and heart involves
coming to know ourselves, making visible our efforts, and having meaningful experiences which amplify our commitment to inquiry (Stolz, 2015). Across these cases, we see different uses of arts-informed approaches that promote engagement by deepening and discovering new relationships, while offering varied entry points to encourage communication and reflection as part of co-production within and across groups.

**Arts-informed approaches enhance and intertwine skills**

Arts-informed approaches can lead to valuable and dynamic skill development for all parties involved in a project. Across our cases, technical skills related to the arts, research, and evaluation were fostered through hands-on training and practice (for example, training student leader-researchers to collect data), exploration of diverse modes of representation (for example, drawing mind maps and visualisations, writing composite narratives), and the creation of shareable art/research products (for example, designing and fabricating a board game). Research has further demonstrated that engagement in and through the arts can foster ‘habits of mind’ (for example, envisioning, observing, reflecting, revising, persisting; Hetland et al, 2013) and social abilities and traits (for example, empathy, friendliness, group commitment; Ruokonen, 2018; Lai et al, 2020; Kastner et al, 2021) that may be applied to different learning and working contexts. Bringing together individuals from diverse professional backgrounds and lived experiences can increase the scope of skills that may be promoted and shared through arts-informed approaches (Ball et al, 2021).

**Arts-informed approaches broaden thinking about impact**

Finally, although we emphasise the potential for arts-informed approaches to positively influence the relational and process aspects of co-production, empirical evidence about the impacts of such approaches remains limited (Searle and Fels, 2018; Ball et al, 2021). Ball et al’s (2021) review provides some evidence as to why, citing four common evaluation challenges: the aims for collaborative efforts can be difficult to establish; intentionally emergent approaches can elude a priori evaluation planning; impacts can take months or years to emerge; and methodological guidance on reliable evaluation methods remains limited. Indeed, these challenges arose to varying degrees in our cases, and we would further add that arts-informed approaches in co-production can be resource-intensive and require different ways of thinking about investments, such as time and the skills required as well as data ownership and representation. Addressing these challenges requires that researchers consider (a) the timing and staging of arts-informed approaches; (b) how the methods and approaches are tailored to the context and stakeholders involved; (c) the range of potential impact and outcome types on a variety of stakeholders; and (d) the support researchers or evaluators with a background in, or understanding of, arts-informed approaches might offer (Ball et al, 2021). Furthermore, in view of Kukkonen and Cooper’s (2019) recent arts-based knowledge translation framework, we contend that the impacts of arts-informed approaches in co-production necessitate expanded notions of impact than those captured through impact metrics and indicators, particularly how the processes and relations that underpin co-production evolve.
Conclusion

We have illustrated in this paper that the arts, through the power of creative expression, offer a distinct way of seeing and engaging in co-production to achieve systems change. While we recognise that this work is only an initial step in interrogating how arts-informed approaches can generate visible, dialogic, evocative, and embodied knowledge, it nonetheless contributes to current understandings of co-production and how notions of creativity feature in debates about linking knowledge with action.

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Contributor statement

SM, AC, MS, and TK wrote the first and subsequent drafts of the manuscript. Study 1 was designed by AC and conducted by AC, SM, and MS. Study 2 was designed and conducted by MS. Study 3 was designed and conducted by TK.

Research ethics statement

This paper draws on three empirical studies. Ethics details are provided for each study. Study 1: ethics approval was granted from Queen’s University General Research Ethics Board on 1 December 2017. Study 2: ethics approval for external research from the school district was sought and granted through Form AP295A in October 2019. Ethical approval for the project ID 114976 was also sought from Western University in February 2020 and a letter of exemption was provided on the grounds of Article 2.4 of the Tri-Council Policy Statement. Study 3: ethics approval was granted from Queen’s University General Research Ethics Board on 10 September 2018.

Conflict of interest

The authors declare that there is no conflict of interest.
Co-production and arts-informed inquiry as creative power for knowledge mobilisation

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