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SPECIAL ISSUE • Creativity and co-production

research

Digital storytelling for policy impact: perspectives from co-producing knowledge for food system governance in South Africa

Camilla Adelle, camilla.adelle@up.ac.za
University of Pretoria, South Africa

Gillian Black, gill.black@livelihoods.org.za
Sustainable Livelihoods Foundation, South Africa

Florian Kroll, florian@plaas.org.za
University of the Western Cape, South Africa

Background: Post-positivist critics of the linear-rational understanding of the role of knowledge in decision making have long argued the need for the construction of socially robust knowledge to illuminate policy problems from a variety of perspectives, including lived experiences.
Aims and objectives: This article charts the attempts of researchers to employ a creative method, digital storytelling, alongside more traditional scientific data in stakeholder deliberations to inform local food governance in South Africa.
Methods: Four storytellers from a marginalised group created and introduced their digital story about a 'time when they had to make a difficult choice about what food to purchase or get' to a public governance forum and the reactions of the audience self-reported.
Findings: The digital stories were emotionally compelling and gave granular detail to the more top-down perspective of the scientific data. There were concerns, however, for the welfare of the storytellers when introducing their stories in the forum.
Discussion and conclusion: Our findings highlight the multi-functionality of digital storytelling as a method of creativity within the process of co-production, not just as a technique to make visible knowledge from marginalised groups, but also as a mechanism (when used and viewed in a wider governance context) to promote knowledge mobilisation and alternative ways of knowing. The use of digital storytelling in these wider governance contexts, or social learning spaces, however, also surfaces ethical and other risks.

Key words digital storytelling • co-production of knowledge • creativity • knowledge democracy

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Key messages

- Digital storytelling is a creative method that can make the knowledge of marginalised groups more visible.
- When used in a governance context, digital storytelling can be a mechanism to promote social learning.
- The use of digital storytelling in public forums brings ethical risks for the storytellers and the researchers.

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Introduction

The relationship between knowledge and policymaking has been a central issue in public policy (Parsons, 2004). But the question of whose knowledge should guide policy decisions has changed as the focus of public policy shifted from government to governance, to include a wider range of stakeholders and experts (Nowotny, 2003). Evidence for policymaking therefore becomes more about interweaving different knowledges than finding the 'right' answer (Bell, 2004). As we enter into this messy real world of policymaking, we must therefore recognise that knowledge is a constructed rather than an objective process and that we rely more on *phronesis* – practical knowledge that incorporates moral and political judgement derived from lived experience, imagination and intuition – rather than just facts and information. In this context the knowledge gap – the gap between policy-relevant evidence and policymaking – has come to be viewed not so much as an information gap, as a learning gap (Schön, 1973) or a gap between knowledge and knowing.

The creative arts such as drama, puppetry, music and storytelling build upon emotions, gestures, and the senses to express the multifaceted nature of challenging human experiences (Carey, 2006). Creativity can therefore play an important role in helping to convert (or reify) abstract concepts and ideas into tangible symbolic constructs and artifacts by which knowledge can be preserved and transmitted, including knowledge based on lived experience through the act of surviving in the world, often excluded from governance decisions (Tandon et al, 2016). At the same time, creative processes can promote the mobilisation of knowledge by acting as communication intensifiers (Shaw, 2017) and so help bridge the gap between knowledge and knowing.

The potential (and risks) of the co-production of knowledge between scientists, policymakers and other stakeholders as a (learning) process to integrate different knowledges is well documented in the literature, including in this journal (Flinders et al, 2016; Locock and Boaz, 2019). However, accepting the diversity of knowledges means abandoning assumptions about the primacy of science and recognising other ways of knowing beyond the university's gates (Nowotny et al, 2003). The concept of knowledge democracy reminds us that knowledge conveyed through written text and numbers can no longer be the only legitimate or even the most legitimate form of evidence for governance decisions. Neither are traditional forms of knowledge

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necessarily the most effective for knowledge mobilisation. In this context: '[s]tories are a kind of door, openings, vehicles to transport us, displace us .... Stories sustain us and offer us spaces of freedom. They let us reach across time and space to share in another's viewpoint, touch another's thoughts' (Sousanis, 2016). Stories can evoke multiple non-traditional ways of knowing, including emotion, memory and imagination, that challenge dominant positivistic knowledge systems to harness the transformative power of knowledge to build the world we want (Tandon et al, 2016).

This article charts the attempts of researchers to employ digital storytelling as a means to interweave different knowledges in a learning process informing local food system governance in South Africa. The article documents how digital storytelling was employed alongside more traditional scientific data to inform stakeholder deliberations (and learning) on food environments. Our findings highlight the multi-functionality of digital storytelling as a method of creativity within the process of co-production, not just as a technique to make visible subaltern forms of knowledge from marginalised groups, but also as a mechanism (when used and viewed in a wider governance context) to promote knowledge mobilisation and alternative ways of knowing. Our findings also demonstrate that the use of digital storytelling in these wider governance contexts, or social learning spaces, can surface ethical and other risks.

Background

Governance, knowledge and social learning

Learning can be seen as an essential element of effective and productive governance, for without learning it is difficult for governance actors to understand the complexity of many public policy problems and resolve conflict among competing interests (Heikkila and Gerlak, 2016). Learning is therefore necessary for fostering institutional or policy change (Sabatier, 1988). Furthermore, learning in public policy settings exemplifies the collective nature of learning. According to Reed et al (2010), the concept of social learning involves a change in understanding demonstrated in individuals that also becomes situated within wider social groups and occurs through social interactions.

Following Argyis and Schön (1978), social learning commentators often distinguish between different learning loops as a way to reflect changes in understanding. Single-loop (or instrumental) learning involves fixing errors on existing techniques and strategies without questioning their underlying logic and values, while double-loop (or conceptual) learning involves correcting errors by rethinking goals and adjusting values and policies. Knowledge co-production processes to inform wicked issues are more akin to double-loop learning, where insights into alternative arguments and perspectives can lead to a more holistic and nuanced understanding of the policy problem.

This shift from instrumentalist ways of thinking towards post-positivist or non-instrumentalist approaches to policy formulation and learning involves accepting types of knowledge which are 'more tacit, emergent and embedded in specific contexts, practices and local experience' (Parsons, 2004: 49). In these circumstances the knowledge gap which needs to be bridged may not be about *episteme* (scientific knowledge) and *techne* (practical instrumental 'how to' knowledge), so much as *phronesis* (practical knowledge that incorporates moral and political judgement derived from lived experience and intuition) (Flyvberg, 2001).

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Integrating these different types of knowledge in the 'agora' (the space where science meets the public), however, involves developing a new, third type of learning, sometimes referred to as triple-loop learning, which is perhaps the most significant potential legacy emerging from co-production processes. Over time the act of sharing ideas and arguments in deliberative forums can help stakeholders from diverse contexts develop into a group with a new and shared way of knowing about a common concern or policy problem (Adelle et al, 2021a). Through better understanding of different perspectives and rationalities, co-production partners are able to develop reflexivity and an ability to take on board perspectives other than their own. This 'meta-learning' (that is, learning to learn) is a key governance capability for dealing with complex and ambiguous social problems (Termeer et al, 2013).

The role of Communities of Practice in social learning

Some authors have employed the concept of 'Communities of Practice' to better understand and operationalise these theories of knowledge integration and social learning (Regeer and Bunders, 2003). Communities of Practice are defined as 'groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (Wenger et al, 2002: 4). They have been recognised as powerful sites of social learning where practitioners share and generate knowledge through conversations, network building and joint activities (Wenger, 2009). While Communities of Practice were originally conceived as intra-organisational learning structures, Cundill et al (2015) argue for broadening our understanding to include 'Transdisciplinary Communities of Practice' that span several organisations and disciplines, bringing together groups of people with diverse expertise, experience and expectations. It is in the latter type of Communities of Practice that the co-production of knowledge and 'meta-learning' for solving complex policy problems is most likely to occur (Cundill et al, 2015).

The role of participatory visual methods in social learning

Traditional evidence gathering for decision making within government tends to adopt a panoptic birds-eye approach to framing governance problems, collecting, aggregating and analysing large volumes of quantitative data, representing these through statistics, charts, and maps (Scott, 1998; Foucault, 2007). These scientific methods of data collection and analysis introduce a degree of abstraction from the governance problem, insulating decision makers from the lived realities such evidence is intended to represent. This type of (*episteme*) knowledge can defuse any sense of urgency or gravity, and exclude the voices (*phronesis*) of those affected by governance problems. By contrast, the personal, visual and grounded nature of information generated through the use of participatory visual methods can make people's realities more visible and evoke human empathy and compassion among the audiences who engage with them (Shaw, 2017).

Participatory visual methods such as participatory video (Shaw, 2017), photovoice (Wang et al, 1996) and digital storytelling (Lewin, 2011) have, therefore, become popular among researchers who aspire to bring the voices of marginalised groups into policy forums. Demonstrating their lived realities through visual materials provides marginalised people with a platform to both speak about social conditions

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and potentially speak back through interactive dialogue with stakeholders (Mitchell et al, 2017). Thus, the outputs created through participatory visual methods can bring granular and evocative evidence to the co-production of 'socially robust' knowledge.

Digital storytelling

A digital story is a short film made up of static images, usually created by an individual in a collective workshop. The creative elements of digital storytelling involve developing the narration of a personal experience (the story) along with the production of images by the storyteller to accompany their narrative (Lambert, 2013). The story narrative is developed gradually through a process of reflection in response to an open prompt question, usually set by the research team in accordance with the research topic. Participants decide upon and create the accompanying images as their storyline grows. Different approaches can be taken to image production including photography, drawing, painting, the use of digital imagery, and model making (Black and Chambers, 2019).

Digital stories are inherently sensitive and personal in nature, often recalling a traumatic or profoundly memorable event narrated by the person who experienced that event. In addition to potentially being recognised through their voices, storytellers make choices about being visually identifiable through photographs in their stories. The personal and collective implications of sharing personal stories with various audiences need to be openly and comprehensively discussed with participants through a multistage process of informed consent, and researchers must ensure that levels of anonymity and confidentiality requested by participants are met (Black et al, 2018). It is important to start these discussions before any storytelling begins, preferably at a project information meeting where potential participants are given the choice to opt in or opt out. Even when robust consent and counselling support mechanisms are in place, it is impossible to predict the way that participants will react to telling or sharing their own stories or hearing the stories of others. Their vulnerability, and that of receiving audiences, cannot be entirely mitigated.

Methods

Introduction

This study is based on the culmination of several research steps that took place in 2018 and 2019 in South Africa. The study builds on a previous research project in which traditional 'scientific' data collection methods were employed, to better understand how the 'food environment' enabled, constrained and shaped the food purchase and consumption patterns of economically marginalised residents in Khayelitsha, an informal settlement on the outskirts of Cape Town. This previous research project is referred to hereafter as Phase 1 and the results are published elsewhere (Kroll et al, 2019). In this section we describe how some of the research participants in Phase 1 of the research subsequently took part in a second phase of the research (Phase 2), in which they were assisted to tell their own stories about their food choices as well as a third phase (Phase 3) in which digital storytellers presented their stories in a public governance forum – the Food Governance Community of Practice (see Figure 1).

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Figure 1: The main steps in each of the three phases of the research

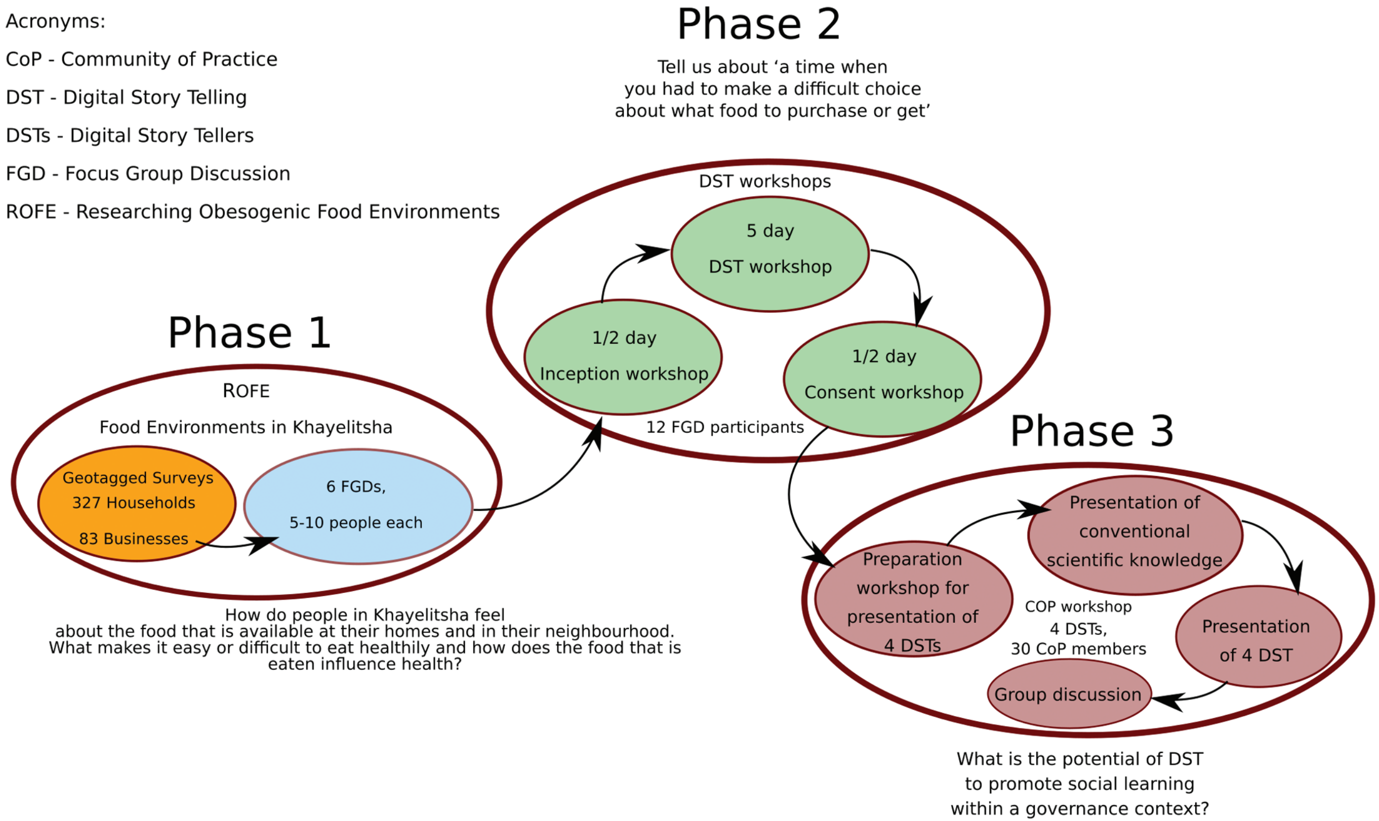

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Figure 2: Participants in the digital storytelling workshop making illustrations for their stories

Phase 2 The digital storytelling process

Twelve of the original focus group participants from Phase 1 of the project took part in a five-day digital storytelling workshop making three-to-four-minute films about 'a time when they had to make a difficult choice about what food to purchase or get'. Storyline development was facilitated by the research team through iterative rounds of story circles and facilitator/participant feedback. The digital storytelling participants used various arts and crafts materials to create their own pictures (mainly drawings and paintings) to illustrate their experience and a key moment of decision making regarding food choices (see Figure 2). Electronic tablets were employed to create the digital versions of the stories, which involved using a video-making app to record the story audio and upload the accompanying images. A translator, who was a resident of Khayelitsha, was available at the five-day workshop and during the primary and secondary consent processes (described below). The research team identified local counselling services which were offered to participants who became visibly distressed during the five-day workshop (and following the Community of Practice meeting in Phase 3).

The research team implemented a multistage, multilayered, dynamic consent process based on their ten-year experience of working with digital storytelling that went beyond ethics procedures stipulated through university governance. Firstly, the five-day digital storytelling workshop was preceded by an inception workshop. At this event, potential participants were informed about the aims and objectives of the digital storytelling process and what would be involved in taking part, including the aspiration of the researchers to show some of the stories at the Community of Practice meeting. They were also informed about the payment of a daily stipend to cover personal expenses that may arise from taking part in the digital storytelling process. The stipend amount, which was the same for all participants, was conceived by the research team based on current costs of cell-phone communication, childminding

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and local taxi fares, which are the most common expenses associated with workshop participation. Attendees were given the opportunity to ask questions, and to opt out. Those who expressed interest were given a primary consent form to take home and consider at their leisure. This form only indicated participants' agreement to take part in the five-day workshop. Participants who decided to join the digital storytelling process were asked to sign the primary consent form before the creative workshop began. Participants were given the opportunity to withdraw from the workshop at any time. None of the participants were required to take time off from paid work to attend workshops.

After the completion of the digital storytelling workshop, and following minor edits to the stories by a video editor, the storytellers were invited to collectively review the final (edited) versions of their films. During this review meeting, the research team requested permission to share the stories with various audiences for the purposes of research and engagement. A secondary and multilayered 'digital story release' consent form was developed for this purpose, with separate sections for showing the stories at community events, academic conferences/gatherings, policy engagements, on distinct social media platforms, and specifically at the Community of Practice meeting. All consent forms were made available in English and isiXhosa and reviewed in a stepwise manner during the meeting, including the discussion of participant questions. Each storyteller was given a copy of their own film.

Phase 3 presenting the digital stories in the Food Governance Community of Practice

The Food Governance Community of Practice is an informal ongoing multi-stakeholder learning platform informing local food system governance decisions in the Western Cape province of South Africa (Adelle et al, 2021a; 2021b). It comprises local and provincial government officials, civil society, academics, and practitioners (such as nutritionists, doctors and farmers), as well as students. At the time of the study, the Community had been meeting for two-and-a-half years and operated primarily by providing an 'agora', where a group of stakeholders discussed different aspects of the food system both with the input from a variety of 'experts' and also from their own perspective (Adelle et al, 2021b). This learning space aims to facilitate the integration of different types of knowledge (episteme, techne and phronesis) through social learning, and has resulted in the development of a cohesive group of stakeholders with a shared identity around a common domain (that is, how to govern the local food system better) and ability to better understand different perspectives and rationalities (Adelle et al, 2021a).

Four women from the larger group of 12 digital storytellers took part in this third phase of the study by presenting their stories at a meeting of the Community of Practice. Their stories were selected by the research team as being of particular policy relevance as they highlighted intersecting issues of poverty, spatial inequality, gender, violence, and obesogenic food environments identified by previous research. The women were not part of a preexisting collective and had not previously been involved in activism or advocacy on the issue of food security or any other issue. Neither did they have any prior experience of speaking in public, academic or policy forums. Their first language was isiXhosa. Only one of the women was comfortable conversing in English. A third stage of the consent process was therefore crucial.

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The third consent process involved the research team spending a day with these four women, explaining in detail what the Community of Practice meeting would involve, who would be in attendance, and why their stories could make important contributions to knowledge about food security in South Africa. The women were given the choice to join the meeting or not, have their stories shown at the meeting or not, personally present their stories at the meeting or not, or to have someone else present on their behalf if that was their preference. They all agreed to attend the Community of Practice meeting and to personally present their stories, and (individually) signed consent forms reflecting this agreement. During this one-day consent meeting, the research team supported the four women to rehearse and otherwise prepare for the Community of Practice meeting, which was held one week later.

The four digital storytellers presented their stories in a meeting of the Food Governance Community of Practice in December 2019. The digital stories were presented alongside academic knowledge on food environments generated from Phase 1 of the project. Thirty members of the Community of Practice were present, including eight academics, seven representatives from Civil Society Organisations, seven government officials, five postgraduate students and three practitioners. Two academic presentations were made in the first session of the meeting, as was usual in the Community of Practice meetings. In the second session, four storytellers introduced themselves and their digital stories, which were viewed in succession. The stories were shown alongside the more conventional presentations to provoke reflection as to whether this type of knowledge enabled the emergence of new or different perspectives among participants.

The two scientific presentations gave data-rich and conceptually dense accounts of the food environments in informal settlements in Cape Town. One of the presentations was based on the results of Phase 1 of the project, while the other presentation was based on similar research projects and research experiences. These presentations contain hard-hitting statistics (for example, 31% of men and 68% of women in the Western Cape province respectively are overweight or obese; while 22% of children under five years old are stunted: low height for age). It was noted that ultra-processed (and nutritionally inadequate) foods are readily available and increasingly consumed in poorer, more marginalised areas of the city. The question that the academic presenters were attempting to answer was 'why are people eating like this, and how does it relate to the food environment?' The evidence presented included GIS maps of the food retail outlets, graphs of food choices, and conceptual food systems maps, as well as photos of the food environment in informal settlements. Factors affecting food choices were set out, including inadequate income to afford a nutritious diet, questions of infrastructure (refrigeration, electricity, storage, access to water), the expansion of shopping malls and the dominance of 'big food players' changing the way in which people access food.

In contrast, the digital stories personally introduced by the four women storytellers gave visceral and sometimes emotionally harrowing accounts of their lived experiences concerning food choices. One woman's story, entitled 'Life is not always sweet' tells of her struggles to buy food to feed her children after her husband died. She had to borrow money, walk long distances to buy cheaper food, despite risk of violent crime, but then eventually revived her informal street food business to bring in an income. She said that she wanted to share this story so that "you can know how a woman lives when she is not working and the pain she has to go through to provide food for her

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children". Another woman's story, 'It's hard growing up', tells of when she moved to Cape Town from a rural area and her disappointment and fear when realising that fresh food was not plentiful in the city. She also talked about her aspirations for sugar-rich fizzy drinks and fast foods. Two other stories were also presented: 'The hardships I have gone through' was described by the storyteller as "my own truth', and 'Rural vs urban foods' which told of the experiences of a woman transitioning from rural to urban areas and how this affected her food choices. All of the stories showed in fine-grained contextual detail how food choices were not just constrained but intimately interwoven, with the severe but routine hardships of the daily lives of these women.

The presentation of the digital stories was followed by facilitated breakout group discussions, in which the Community members discussed their initial reactions to the stories, which aspects of the food environment were revealed in the stories, and how these insights about the food environment related to their work (or practice), as well as the ongoing discussions about the food system within the Community of Practice.

Data collection and analysis

Data on the meeting and the reaction of the Community of Practice members to the academic and digital story presentations was recorded and collected by a variety of methods: 1) A feedback questionnaire was filled in by each Community of Practice member during the meeting. The questionnaire consisted of open questions recording the member's immediate reactions, insights gained and any change in their perspective on the concept of food environments. The questionnaire was split into sections which were hand filled: at the beginning of the meeting; after the academic presentations; after the stories; and after the discussion groups. The Community of Practice members were given only a short time (4–5 minutes) to fill in each section of the paper questionnaires and therefore generally recorded only short responses. Further 'checkout' questions were asked at the end of the meeting; 2) A written summary of the feedback from the breakout groups to the main group was recorded by a rapporteur for each group; 3) One-on-one discussions and email correspondence between the research team and a small number of Community of Practice members after the meeting were also included as written notes.

These various qualitative data sources were digitised and entered into an Excel spreadsheet, where a thematic analysis was conducted by the research team by hand. Responses of the Community members to scientific information and digital stories were contrasted, as well as the responses between the different types of community members (academic, government officials and civil society representatives).

Findings

The findings below set out the responses of the Community of Practice members using the themes developed deductively from the data.

The academic presentations

This subsection relates to the themes of the 'complexity of the nature of food environments' and 'specific insights gained'.

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Community of Practice members viewed the two presentations as informative, educational and interesting. One member reported that "[T]here is much good in-depth research being done with interesting and important findings". Only one Community member reported an emotional response in that they found the information "shocking to learn about". Another member commented that the information needed to be shared more widely so that "People should be aware of how big business affects food environments and food choices". Other interventions were suggested in direct response to the presentations, such as there was "a clear need to shift what is consumed", to more specific calls for better nutrition in schools and Early Childhood Development centres. Another member reported that the presentations had pointed out a number of potential intervention points, which gave them hope. Beyond this initial response to the academic presentations, the Community members reported to have gained a better understanding of the complex nature of food environments, and that food choices are affected by many things so there is no single solution to improving food choices. Community of Practice members also reported more specific insights gained, such as the need for diversity of ways to access (nutritious) food to increase resilience, the significant role that town planning can potentially play in improving food environments, the importance of nutritious food and the impact of malls and large retail, not just on the informal food sector.

The digital stories

This subsection relates to the themes of 'the power of personal connection'; 'contextual factors that impact on food choices'; 'the interplay between vulnerability and food insecurity'; and 'the interconnection of social determinants of food choices'.

The digital stories were emotionally compelling to many of the Community of Practice members. The stories were perceived as 'real' and the Community members reported feeling sad, frustrated, and angry about the hardships and injustice. They also felt admiration and compassion for the storytellers. One member reported feeling "frustration that people have such experiences and that our food system offers no support to those who need it". The stories made personal connections with the lives of the Community members, for example: "I am familiar with similar stories as I grew up in the Cape Flats. But these come from different context". Other audience members were reminded "how different lives are in Cape Town, although we live in such close proximity to each other". The reported insights gained from the digital stories demonstrate rich and nuanced information on the contextual factors that impact on food choices, including cultural aspects such as the way that the move from rural to urban living impacts on food access and choices, as do Western paradigms or aspirations and the need for convenience in conjunction with long commuting times out of the city and its suburbs to the informal settlements. Another important insight gained from the stories was the recognition of vulnerability, and its many manifestations, in understanding food insecurity, which forces people to make food choices from positions of intense stress. Finally, the digital stories also appeared to help the Community of Practice members more fully appreciate the interconnected social determinants leading to certain patterns of food 'choice' including: poverty, unemployment, low wages, poor parenting, the lack of child care and crime.

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Reflections on learning across knowledge streams

This subsection relates to the themes of 'the power of individual perspective in connecting policy to experience'; 'concern for the vulnerability of the story tellers'; and 'the perceived learning impact'.

More government officials (self-)reported in the meeting to have changed their perspective after watching the stories than viewing the academic data. One official reported that this change of perspective in part came from their appreciation of the stories as "real interactions [that] we need to absorb and learn". Another official commented that the focus on poorer income households (as opposed to wider income groups) had helped them better understand the complexity of the relationship between food and survival. A third official stated that the stories had helped them more fully understand the difficulties that the hardships in the lives of these women impacted on accessing (healthy) food. This was in contrast to the Civil Society Organisations and academics, none of whom reported to have changed their perspective after watching the stories, although there were several 'unsure' responses in both groups. Some Civil Society Organisation representatives reported not being surprised by the stark realities revealed in the films, while several Civil Society Organisation representatives reported having "learnt a lot" or that they had appreciated the "good information" contained in the academic presentations. Several of the academics reported not changing their perspective despite the stories being "important and powerful" and illustrating the lived experiences of the food insecure.

Many academics were concerned about the welfare of the digital storytellers, three of whom became visibly emotional when introducing their stories. One Community member reported: "It jolted and upset me to see [X] in tears while their stories were playing. But it is perhaps not surprising that it happened. Probably some of the audience feel angry that they were exposed to this". Another commented that "the room became an emotional space and felt very different to the previous engagements. I feel bad that they are sharing their stories in this space". A third Community member reflected after the meeting that it didn't sit well with them because "it felt that the people presenting the stories were giving more than they were getting out of it and so it was really a process because we had said we need these voices in the room. So we had gotten them and they had done this process and I think this had put them in a bit of a vulnerable position". At the same time the Community of Practice member recognised that they were conflicted because without the women in the room, they wondered if people would have learnt so much. Another member commented, "It is very important to invite people into the spaces, and make spaces for many voices. I am really glad the Community of Practice was able to do this".

Discussion

Why people eat what they eat in the context of South Africa, where negative diet-related health impacts are being felt so strongly, is an important question for governance actors to interrogate. The two knowledge streams presented to the governance stakeholders in this research illustrate the value of engaging with 'diverse communities of problem solving' (Visvanathan, 2009). The knowledges provided through the academic presentations and the digital stories were different, but complementary, illustrating the policy problem of food insecurity (and obesogenic food environments) from different perspectives: the 'bird's eye' and the 'worm's eye' views. This helped to

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create a more holistic picture. While the academic information illustrated how unequal power relations within the food system determined which foods were most accessible, the digital stories gave fine-grained detail on how other interlinked socioeconomic factors also constrain food choices. The academic evidence appeared to give rise to more ideas (and hope) about potential governance interventions, while the digital stories gave a more emotionally compelling motivation for action, especially for government officials, although the sample size was small. This outcome may have been a result of the sequencing and combination of presentations: after the scientific presentations set the scene, the digital stories aroused empathy and lent these abstract insights concrete relevance. Each on their own may not have achieved the impacts observed. While the four women in the study had been included in Phase 1 of the research, from a knowledge democracy perspective the creative methodology of digital storytelling had allowed them to also tell their 'own truth' without being limited to specific questions, conceptual lenses or preexisting knowledge of the researchers.

That is not to say that presentation of these different knowledge streams side by side automatically led to the integration of these knowledges and social learning. The context in which the digital stories are shown matters for bridging the knowledge-knowing gap. How the different knowledges were made sense of (for example, how legitimate and salient they were to the audience) appears to have depended, in part, on the existing or assumed knowledge as well as values and beliefs of the Community of Practice members. Academics claimed not to have changed their perspective on food environments after seeing the digital stories. While these factors were not independent of the role of powerful actors in the food system, they were potentially evidence of more nuanced interaction of the complex factors shaping food choices. In contrast, it is possible, although unclear from this research, that presenting digital stories alongside scientific data in a public governance forum may increase the credibility of the stories as evidence for some of the audience members. In particular, this may be the case with government officials who would potentially need both types of knowledge to take action, namely an emotionally compelling and authentic story providing political motivation for politicians to mobilise support for policy action, and 'hard' quantitative evidence for bureaucrats to justify the design of new policies (personal communication, 2020a).

The use of fiction, theatre, storytelling, metaphors, symbols, masks, and other art forms can be used to help people modulate between overly emotional, under-distanced states, and overly rational, over-distanced states (Bleuer et al, 2018). The effectiveness of theatre performance to mobilise knowledge in policy spaces through the portrayal of personal authentic experiences has been demonstrated (Abah, 2004). Bleuer et al (2018) and Stark (2015) have suggested that live theatre can achieve knowledge mobilisation and support learning by engaging the psychological process of 'optimal stress' among audience members. Bleuer et al (2018) argue that the level of stress achieved in an audience can be 'somewhat of a moving target' due to the diversity of the audience, which prompts them to respond to the same material in different ways. Rudland and colleagues (2020) postulate that moderate stress can be beneficial for learning, whereas extreme or mild stress impacts negatively on the learning process. Whereas the responses of some Community of Practice audience members suggest that a degree of emotional discomfort and stress may have been generated through showing the digital stories at the meeting, we cannot be certain that this enabled knowledge mobilisation.

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The interplay between 'optimal stress' and the 'aesthetic distance' (Bleuer, 2018) when showing digital stories in a governance setting is an area that warrants further research: affective intensity evoked by the stories may have transcended the emotional distance brought about by presentations of statistics, charts, and maps, and heightened a sense of urgency and resolve to address these issues together. However, for some participants, the in-person presentation of the stories by their creators may have reduced the 'aesthetic distance' too far and prompted the response that the process 'didn't sit well' with them. Thus, while showing hardship through the medium of digital stories may potentially allow for physical distance and a level of emotional regulation by the audience, the simultaneous face-to-face encounter with those who were experiencing that hardship may make audience members feel awkward and immobilised, due to a concern about the vulnerability of the storytellers.

The discomfort of audiences who engage with the outputs of digital storytelling, and other participatory visual method processes, and the vulnerability among the participants who personally present them, are ethical considerations of visual research and community engagement that have been discussed previously (Wiles et al, 2012; Rose, 2016; Black et al, 2018; Black and Chambers, 2019). The Community of Practice member who felt that the storytellers had been put in a vulnerable position raises a crucial point about the ethics of showing digital stories for the purposes of research, discussion and knowledge co-production. A core principle of participation in research is that participants make decisions about what they want to say, and how, where and to whom they want to say it (Black and Chambers, 2019). It could be argued that these principles of decision making should extend to the presentation of the outputs, or knowledge artifacts, created through a participatory research process and that visual methods participants should be able to make their own decisions about their vulnerability.

This argument to some extent rubs up against current university ethical review and approval processes, which starts from an assumption of vulnerability, risk and the need for protection (Locock and Boaz, 2019). In the context of post-positivist research and the co-production of knowledge through partnership between research actors 'paternalist ideas about consent and ethics have little traction' (Locock and Boaz, 2019: 416). Goodyear-Smith et al (2015: 3) argue that under these circumstances 'there is a move from protection of individual participants to the development of a relationship between researchers and community partners which is mutually advantageous'. The four women who showed their digital stories at the Community of Practice meeting were excited and motivated by the opportunity to do so. They each made an informed choice and gave their written consent to present their stories in person and were supported by the research team in doing so.

Underlying power dynamics, however, make it hard for disadvantaged people to participate fully in 'invited spaces' (Gaventa, 2006). Tremblay (2013) and others (Mitchell, 2015; Shaw, 2017) have discussed the theoretical and methodological ability of participatory video, for example, to mitigate power imbalances and enhance dialogue and learning between researchers, policymakers and community members. However, in this study, and as discussed by Sykes (2020), there were irrefutable constraints in terms of balancing power between the participants (giving consent) and the researchers (requesting consent), as well as the audience.

Our experience supports previous arguments that the institutional context in which participatory visual outputs are shown influences power dynamics and raises

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other ethical consequences (Wheeler, 2012). The four women who attended the Community of Practice meeting did not have sufficient experience to anticipate the impact of moving from an informal workshop setting to a formal university setting with implicit and explicit rules of interaction. These structural constraints are hard to overcome through a traditionally conceived 'informed consent' procedure. The findings of this study raise important questions about who decides what is ethical when it comes to sharing personal digital stories in invited spaces.

Furthermore, although the top-down way in which the digital storytelling exercise was initiated by academic researchers enabled access to an audience of interested and concerned governance actors and ensured that the stories responded and added experiential nuance to issues identified by traditional academic research, this approach may have restricted the impact of the exercise. While group work in digital storytelling methodology has been linked with the development of a 'unity of mission' among participants (Gubrium, 2009), and in principle including community members in co-production processes can help empower individuals and groups that take part (Flinders et al, 2016), the four storytellers in this study were not established advocates for food security, and the process that they took part in did not empower them to take their own story forward in other ways. The reach and longevity of the digital stories as artifacts of knowledge is thus likely to be constrained. The limitations of one-off engagements and the need for sustained interaction between community representatives and policymakers has been noted (Wheeler, 2012). Through her reflections on working with participatory video, Shaw (2017) has also discussed the risk of limiting meaningful participation when an exchange ends after a single playback event, arguing that this is an example of finalisation and a barrier to ethical dialogue.

Conclusion

In this article we have shown the multi-functionality of digital storytelling as a method of creativity within the co-production of socially robust knowledge and social learning: First, the resulting digital stories are knowledge artifacts that reify knowledge based on lived experience; second, digital stories can enable a marginalised group to share or mobilise their unique knowledge with a wider and politically more influential group, and so take part in knowledge co-production processes; third, when embedded in a wider governance context, digital stories can act as a creative mechanism to help broker the evidence-practice gap by promoting social learning. The emotional connection, and potentially 'optimal stress', that stories build between the teller and the audience make for a powerful mechanism of social learning as knowledge flows between the 'I' and the 'we'.

We should be conscious when using these types of creative mechanisms, however, that they may not be received in the same way by different audiences. Existing or assumed knowledge is an important contextual factor affecting how different types of knowledge are viewed and valued. In addition, different types of knowledge are required both by different stakeholder groups and within groups. We still need a broader understanding on how knowledge is utilised within government. While we should be cautious of inferring too strong a link between knowledge and action, creative methods that help combine epistemic with knowledge expressed through lived experiences to form a compelling narrative for action can be an important mechanism to close the gap between knowledge and knowing through social learning (one step in the journey).

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Donald Schön, in an early critique of Evidence Based Policy Making, wondered whether 'debunking policymaking as a rational exercise suggests the need to empower the relatively powerless', and whether new forms of learning and engagement may help shift existing power structures (Schön, 1973: 151). In this research we have attempted to empower marginalised food-insecure people by including their knowledge into the co-construction of a robust understanding of food choices and food insecurity. However, this one-off engagement could not significantly contribute to shifts in the power structure ingrained in the unequal society (and food system). This emphasises the important point made by Metz et al (2019) that when dealing with multiple stakeholder groups in co-production processes we need to fully understand and address how to best involve different stakeholders. While digital storytelling is well recognised as a creative methodology for assisting people to find a voice and surface new perspectives and local knowledge, this research highlights the need to further consider how this knowledge can be sensitively introduced and integrated into wider co-production processes, and what counts as meaningful involvement for these marginalised stakeholders (Locock and Boaz, 2019). The use of digital storytelling, and other creative methods, in knowledge co-production processes involving a wider range of governance stakeholders, warrants greater reflection and investigation in the literature.

While co-production is rightly seen as a positive process, it is acknowledged that boundary-spanning spaces may be both invigorating and uncomfortable and that co-production is a risky endeavor:

> It is time-consuming, ethically complex, emotionally demanding, inherently unstable, vulnerable to external shocks.... It is perhaps understandable then that academics remain cautious about engaging with this agenda due to the risks that they perceive accompany this method. (Flinders et al, 2016: 261–66)

It is in the analysis of these risks, however, that the hidden politics and pitfalls of co-production can be exposed and therefore potentially managed (Flinders et al, 2016: 261–66). Nicholas et al (2019) remind us that a core attribute for success in co-production is humility: 'Attempts at comprehension and control are likely to be frustrated. Surprises are more likely than comprehension' (Nicholas et al, 2019: 361). In the spirit of humility, therefore, it is important that as researchers we not only (carefully and consciously) take the risk in employing these creative methods of knowledge co-production, but that we also take the risk of reflecting on their intended and unintended impacts on those involved.

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who participated in the meeting in December 2019 in which the digital stories were presented and discussed.

Research ethics statement

This research involved significant and complex ethical considerations which are outlined in detail in the methods section of the article, including three rounds of informed consent with the four women whose presentation of their digital stories in a public governance forum forms the basis of this research. Unanticipated reactions from both the storytellers and some members of the audience of the governance forum raised ethical dilemmas which the researchers then reflect on and discuss in relation to similar accounts in the co-production literature. The research project was granted ethical clearance (HS18/5/13) from the Humanities and Social Science Research Ethics Committee of the University of the Western Cape, South Africa on 13 August 2019.

Contributor statement

CA wrote the first draft of the manuscript with significant input into the text from GB. GB conceptualised and conducted the digital storytelling workshops and consent process. CA and FK helped to conceptualise the digital storytelling workshops and conceptualised and conducted the Community of Practice meeting and the data collection during this process. CA and FK conducted the data analysis and interpretation with significant contribution from GB. FK drafted Figure 1.

Conflict of interest

The authors declare that there is no conflict of interest.

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