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Towards a Co-Creative Immersive Digital Storytelling Methodology to Explore Experiences of Homelessness in Loughborough

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Abstract: Despite the potential use of digital storytelling with marginalised groups, there are few examples of its application in homelessness or examinations of co-creative relationships in this context. Along with digital storytelling, this research used immersive media (virtual reality and 360 degree video) to explore place-based social exclusion. In the feasibility study, with four doctoral researchers at Loughborough University as participants, immersive digital stories were co-created. The aim of this study was to understand how to create place-based immersive digital stories, through adapting existing digital storytelling methods and the co-creation of virtual reality, to inform best practices for future studies involving participants who have experienced homelessness. Participants created maps and empathy timelines, shared stories, recorded voiceovers and edited footage. The researcher facilitated this and recorded the 360-degree filmed footage. The final stories proved to explore place-based social exclusion. Co-creative relationships were found to be more significant between the researcher and individual participant than amongst the participants as a group. With immersive media, the researcher's experience formed an active part of the finished pieces. Despite this, participants described their role as director, being ultimately in control. These findings will influence the methods that will be used in the future with those who have experienced homelessness in Loughborough. They also show how immersive media in digital storytelling can strengthen co-creation and acknowledge the researcher in the story.

Keywords: digital storytelling; immersive; place-based; urban space; codesign; cocreation; feasibility study; virtual reality; home; homelessness



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1. Introduction

The use of storytelling as a research method in the area of homelessness provides an opportunity to include those experiencing homelessness in shaping the narrative, based on individual experiences and perceptions rather than previous assumptions. Storytelling elicits an individual's potential to create meaning. Through depicting the world around them, individuals can tell their own story and narrate new ways of being and knowing (Bruner 1991; Cavarero 2000; Lewis 2011). Empowering people experiencing homelessness is a move towards research and policy more closely aligned with their complex needs and priorities and builds a more accurate overview of who experiences homelessness and how.

Digital storytelling is a storytelling method that uses digital elements, and it is often used in education or in community settings, with the added potential of being therapeutic (Chan and Yau 2019; Sage et al. 2018). A definition that is often used describes digital storytelling as sharing a short 2–3 min story through the use of multimedia such as digital images, music, video clips and voice narration (Lambert 2012; Armstrong 2003). De Jager et al. indicate that digital storytelling is a respectful participatory process, especially appropriate for use with marginalised groups (De Jager et al. 2017). The power of digital stories is that they are easily learned, created and shared. Anyone can make a digital story

because everyone has a story to tell (Meadows 2003). The easily sharable nature of digital stories renders them a useful medium for the distribution of knowledge to those who need to hear it—not just those researching homelessness, but also policy makers and those designing services.

Although digital storytelling has been deemed especially appropriate for use with marginalised groups, there are relatively few examples of its use in homelessness, particularly in a European context. In fact, in De Jager et al.'s systematic review of digital storytelling in research, across a global sample, only one project focused on homelessness. Since this review in 2017, there have been further examples (Wachira and Parker 2018; Shapiro-Perl 2017); however the majority of these have been outside Europe and digital storytelling has been one of many methods used in the study. The themes in these studies are around perceptions of home, vulnerability and, more specifically, public services. These themes are pre-determined and are either based on previous research into homelessness or very specific areas of what the homeless experience is perceived to be.

Another aspect of digital storytelling and homelessness that is represented in the literature is the use of stories about homelessness for social impact and within social impact organisations (Bublitz et al. 2016; Gomez et al. 2019). These examples are somewhat collaborative and based in reality, with people with lived experience being consulted. However, aspects of the stories are manipulated to include metanarratives, character development, climactic plots and mission-motivated messages (Bublitz et al. 2016), intentionally crafting more impactful narratives of homelessness. These narratives place the focus on how people become homeless and traumatic experiences, as opposed to lived experience and personal values. In the case of Gomez et al., an interactive narrative “game for good” (Gomez et al. 2019) was developed, in which one can play as a homeless character, as a way of questioning ethical values (Gomez et al. 2019). The game narratives were collaboratively produced in groups; however, they were not developed solely from reality and therefore speak more to perceptions of the issue rather than experiences. Although well intentioned, these types of extractive storytelling, as opposed to more participatory storytelling, further legitimise assumptions and entrenched knowledge regarding the triggers and causes of homelessness, as well as the stereotypes of people who experience it.

According to Brandsen and Honigh, co-production and co-creation occur when citizens participate actively in delivering and designing the services that they receive (Brandsen and Honigh 2018). However, co-creation and co-production as concepts have also been widely used across design and creative art practice. The use of the term co-creation started to gain traction at the turn of the 21st century (Degnegaard 2014), with the practice of “collective creativity” (Sanders and Stappers 2008, p. 7) dating back to the 1970s (Cross 1972). Walmsley (2013) compares different definitions of co-creation, between those that suggest that it is the interaction of individuals within a framework to re-define or invent something that is new (Fuller and Trevail 2012) and more generic depictions of co-creation as “the art of with” (Leadbeater 2009, p. 5). Both of these definitions are relevant to this study, as the aim is not just to create stories with others, but also to redefine the methods in which to do this.

Co-creation and co-production as an approach in homelessness have been on the rise in the UK, with the term being used by homeless charities (Homeless Link 2022; De Vally 2019) and housing associations (National Housing Association 2020) in their policies and communications. This has been investigated in research, with particular attention being given to the co-creation of homelessness services with “experts by experience” (Meriluoto 2018) in the European context (Meriluoto 2018; Allmark 2020). Whilst this research recognises the importance and value in including those with lived experience in the design of services and policies that directly affect them, both Meriluoto and Allmark identify issues in current efforts to do so.

Meriluoto argues that, in Finland, the co-creation discourse has placed a double demand on experts by experience, requiring them to possess both policy-relevant expertise and authenticity, ultimately isolating individuals from both social welfare organisations

and their fellow service users. Allmark similarly reveals some of the hidden politics and contradictions in the 2016 Manchester Homelessness Charter, which articulated a utopian vision of co-production as a route to social cohesion, inevitably failing to uphold the democratic ideals that it described.

The perceived utopian potential of co-creation has led to it, and several related terms, becoming a buzzword and to the co-opting of these terms by commercial agents (Degnegaard 2014). Bell and Pahl further describe this co-option as “neoliberalism’s attempts to capture and domesticate co-production’s utopian potential” (Bell and Pahl 2018, p. 107). This co-option arguably draws parallels with extractive storytelling practices in documentaries, journalism and the arts (Cizek and Uricchio 2019), in the ways that people’s participation is inevitably used against them, despite promises of liberation. Despite the intentions behind using co-creation in this research with marginalised individuals being democratically in the interest of building experiential knowledge systems, the extent of the individual’s participation and involvement will impact how extractive and potentially damaging this process could be. This means that particular attention has been paid in this study to co-creative processes and the relationships formed between the researcher and participants, as well as between the participants themselves. It is also important to determine the impact that these processes and relationships have on the digital stories and knowledge created.

In Jager et al.’s aforementioned systematic review of digital storytelling in research, they note the variation in the extent that digital storytelling in research adhered to the principles in which it was originally developed, as the practice of creating a personal story as an approximately two-minute film with a voiceover (Lambert 2012). These variations are often employed to combat some of the risks and disadvantages associated with digital storytelling. These efforts aim for the methodology to be more participatory and to consider more fully the ethics associated with representing an experience. The ways in which a digital storytelling methodology has been adapted in this research are for similar reasons. Partly for these reasons, in addition, the methodology has been adapted to include the use of virtual reality.

Immersive media, including virtual reality and 360-degree films, represent a wide variety of computer-based applications commonly associated with immersive, highly visual 3D characteristics that allow the participant to look about and navigate within a seemingly real or physical world. It is generally defined based on the type of technology being used, such as head-mounted displays (Lopreiato 2016, p. 40). The potential of immersive media in the context of homelessness, digital storytelling and co-creation is in this navigation of space from someone else’s perspective and the representation of their experience.

Through representing space visually alongside accounts of personal experiences, there is the possibility for narratives exploring the impact of spatial social exclusion and displacement, which in turn tells us more about the experience of losing one’s home. Social exclusion is simultaneously seen by some as a cause but also a symptom of homelessness (Marcuse 1988). Also referred to as social marginalisation, it is commonly understood as a process detaching individuals from social relations and institutions. Homelessness has historically been seen as being an extreme form of poverty and social exclusion (Lenoir 1974). As a symptom of homelessness, social exclusion can also be considered through interaction with space rather than just interaction with people and institutions (Silver 2022). As well as access to social structures and relationships, social exclusion impacts access to spaces, which in turn further impacts social contact and feelings of belonging.

In its most basic terms, homelessness is seen as the absence of a physical home, but home as a concept is much more than this. In the context of space, home is the location of the domicile, the time lived in that place and the presence or absence of social connections therein (Terklenli 1995). For those experiencing homelessness, they must continually reinvent themselves and re-establish a sense of place and belonging in the spaces that they can temporarily rest in (Sliwinska 2019). Visually conveying spaces alongside individual experiences through immersive digital storytelling could be a way

of paying “open-minded attention to the lived experience of displacement” (Vandemark 2007), but can also tell us more about how people establish a sense of place and belonging.

Empathy as a philosophical concept was introduced by Robert Vischer (1873) to refer to the human ability to “feel into” works of art and nature in order to aesthetically perceive them. Edith Stein described empathy in 1917 as an intentional intersubjective act through which “foreign experience is comprehended” (Stein 1964, p. 6). In the 20th century, empathy was further defined by Simulation theorists, using neuroscientific findings as biological evidence of the inner imitation, or “simulation”, that takes place in the brain. This theory argues that empathy is the means by which we understand other minds, using ourselves as a model to understand the other person’s inner life (Rizzolatti and Craighero 2004). The issue with this understanding of empathy is that by assuming ourselves as a model to understand others, we assume not only a conventional standard for the way in which all minds work but that all experiences are comparable. If the purpose of empathy is an intentional act through which “foreign experience is comprehended” (Stein 1964), then mere simulation is not enough.

In the design literature today, it is debated whether one should design with empathy or for empathic experiences. These debates have arisen due to the contemporary design practice of user-centred or human-centred design, which focuses on the stakeholder’s own experience rather than their perceived needs. To design only with empathy, as opposed to for, implies that empathy is something that can be easily accessed or achieved. It also implies a utopian purpose of empathy, as a means to create within all users’ best interests. This understanding of empathy in design reiterates the importance of co-creation and participatory practice in homelessness policy and services, as, at its best, empathy is an active process that challenges perceived needs, and, at its worst, the issues surrounding empathy emphasise that there is no universal approach that can address all interests.

Overly simplistic views of empathy are mirrored in the colloquial understanding that empathy denotes a positive outcome, due to a change in attitude or belief, with a likelihood that this change may result in pro-social behaviour and even actions advancing justice (Rouse 2021). Although desirable, the uncritical nature of this is rightly questioned. As Nash argues, empathy understood in this way does more to assuage the privileged person’s guilt rather than effect true social transformation (Nash 2018). Due to this understanding, the potential of immersive media, primarily virtual reality, is often overstated. Referring to virtual reality as “walking in another person’s shoes” has led to these techniques being labelled the “ultimate empathy machine”. In their discussion of the power of immersive media, Jones and Dawkins suggest that the creation of empathy is not what is important, but it is the opportunity to “gain an increased awareness of space, place and social relations which can lead to positive societal change” (Jones and Dawkins 2018, p. 298). To increase our understanding of lived experience to help inform local policies for homelessness, gaining this awareness is incredibly valuable for service designers and policy makers.

In this article, findings will be presented from the feasibility study’s immersive digital storytelling workshops, using co-creation and virtual reality in the author’s PhD research. This research is part of Loughborough University’s transdisciplinary HOME centre (CDT) for doctoral training. HOME, which stands for Harnessing Opportunities for Meaningful Environments, is a collection of doctoral projects aiming to approach homelessness in a creative way and from multiple perspectives. The CDT uses a transdisciplinary approach and a creative lens to build empathy and understanding from new, under-represented perspectives and under-researched contexts. This study, with doctoral researchers at Loughborough University as the participants, explores how the representation of place in immersive media can be used alongside digital storytelling methodologies to communicate experiential knowledge and the extent to which these immersive digital stories are co-created. These findings will go on to inform how immersive digital storytelling could be used in the context of homelessness to impact policy and the design of local services, as well as the particular ethics of representing experiences and perspectives in this medium.

Loughborough is in the East Midlands of England, part of the borough of Charnwood, and located between the cities of Leicester, Nottingham and Derby. The 2021 UK census recorded Loughborough having a population of approximately 64,884. Loughborough's ethnic demographic is predominantly White, with Asian being the second-largest ethnic group, accounting for over 10,000 of the population ([United Kingdom Census 2021](#)). Within the town centre itself, 13.6% of residents were reported as full-time students in 2015 ([ERS Research and Consultancy 2015](#)). Historically, Loughborough has been a site of industrialisation, known for its bell foundry and production of steam locomotives. In 2022, Shelter's figures on homelessness purported that one in 496 people in Charnwood live in a hostel, temporary accommodation or on the streets ([White and Frost 2023](#)).

The aim of this feasibility study was to understand how to create place-based immersive digital stories, through adapting existing digital storytelling methods and the co-creation of virtual reality, to inform best practices for future studies involving participants who have experienced homelessness. Loughborough was used as the context for this place-based research. As the facilitator of the workshops, my role as a co-creator was in how this facilitation impacted the content and style of the stories. However, I also played a significant role in how the stories were technically created, as I filmed all of the 360-degree footage independently and made the final edit to the finished stories. This relationship between myself as facilitator and the individual participants was analysed. Alongside this, the potential of other participants acting as co-creators to each other's stories was explored, as well as the challenges and limitations of these contributions.

This study was conducted alongside additional prototyping of the methodology and immersion in homelessness support and service contexts. Due to the increased vulnerability associated with homelessness and the complex intersections of stigma, which has a unique impact on the challenges of co-creation and designing empathic experiences, this feasibility study is one of many research activities that will inform these future studies.

As well as its obvious link to homelessness, social exclusion is also a concept that has appeared in recent research about the student experience in the UK ([Amsler and Bolsmann 2012](#); [Sutton 2018](#); [Nutakor 2022](#)). This research spans the impact of elitist university rankings on students, the isolation felt by mature students and racism encountered by students during their university journey. Therefore, as a demographic, not only do students represent a large quantity of those that have a relationship with and perspective on the urban area of Loughborough, but they also represent a demographic that has potentially encountered some form of social exclusion in their time at university. Although these parallels with those experiencing homelessness in Loughborough should not be overly emphasised, they provide an interesting context from which to explore these methods and their contributions.

2. Materials and Methods

This study comprised three workshops, with three participants in the first workshop and a fourth participant in the second and third workshops. The participants were recruited from the doctoral researcher community in the School of Design and Creative Arts at Loughborough University. Participants were recruited via an email distributed to doctoral researchers in the department. The inclusion criterion was that they had some experience and knowledge of the local area of Loughborough. At this stage in the research, recruiting from doctoral researchers was ethically necessary, as the aim was to test certain methods in order to reduce the risk of being overly extractive or intensive, before using them with vulnerable participants. As well as already being familiar with qualitative research methods, the doctoral researchers were also in a position to give informed feedback and suggestions on the methods and research. By focusing on the postgraduate student population, there was an increased possibility of there being a larger age range between participants, with a greater range of diversity of experiences of the local area. The four participants indeed did vary in that one resided full-time in Loughborough, one resided part-time and the other two regularly commuted from the surrounding cities. Each of the three workshops

lasted 2 and a half hours, taking place on campus at Loughborough University over a 2-month period.

As well as utilising activities and structures from digital storytelling methodologies, such as digital storytelling prompts, story circles and scripts, the workshops also utilised activities to explore co-creation, empathic design and place-making. These activities included co-creating geographical experience maps and empathy timelines. These activities were chosen due to their speculative nature and the opportunities presented to co-create and collaborate in a group setting, allowing me to observe and evaluate not only the co-creative relationship between myself and the individual participant, but also amongst the participants. Additionally, the opportunity to create physical artefacts was intended to remove the limitation of ideating based on views of current and past experiences, as can be the case in conventional methods like focus groups and interviews, and instead reveal participants' aspirations and ideas for future experiences (Visser et al. 2005). The intention of this was to allow the participant to be an expert in their own experience, rather than a passive object of study (Sanders and Stappers 2008, p. 12).

2.1. Workshop 1: Mapping and Empathy Timelines

In the first workshop, geographical maps and empathy timelines relating to personal experiences and perceptions of Loughborough were created. The objective of the mapping exercise was to plot personal experiences, places and memories on the map using the materials provided. To create a map, participants were provided with A3- and A2-sized template maps of Loughborough, coloured paper, pens, post-it notes, stickers and various other crafting materials. For inspiration and a stimulus, they were encouraged to refer to online searches and were also provided with Loughborough local history books and guide books. Participants were then divided into two groups; one group worked collaboratively on their map and the other participant worked independently. This was done to compare the differing experiences and see if collaboration aided ideation and reflection. The final maps were collected for analysis after the final workshop, and the conversation between the individuals working together was audio-recorded. Participants were also asked to reflect on this element of the workshop in the feedback questionnaire distributed at the end of the session.

To help participants to create their maps, the following prompts were provided:

- What was your first experience of/impression of Loughborough?
- Where do you feel at home in Loughborough?
- Which places/areas in Loughborough are familiar/significant to you?

These prompts were chosen to elicit memories and experiences that described what Loughborough meant to participants as a place, but also how they regarded Loughborough as a home.

Following this activity, in the first workshop, participants were then asked to create empathy timelines. Empathy timelines are a tool that was developed by Woods et al. as part of the project Citizen Sensing: A Toolkit, as a means for participants to become aware of their own subjective viewpoints on issues and bring people together to discuss these issues in a way that they perhaps have not often done before (Woods et al. 2018). Participants plotted two lines on a piece of A3 paper, each representing 12 h from 8 a.m. to 8 p.m. On one of these lines, participants documented what activities they might do over the course of a day to give them a sense of "home" and "belonging". On the second line, they plotted how they might contribute to this experience for others, over the course of those same 12 h (Figure 1).

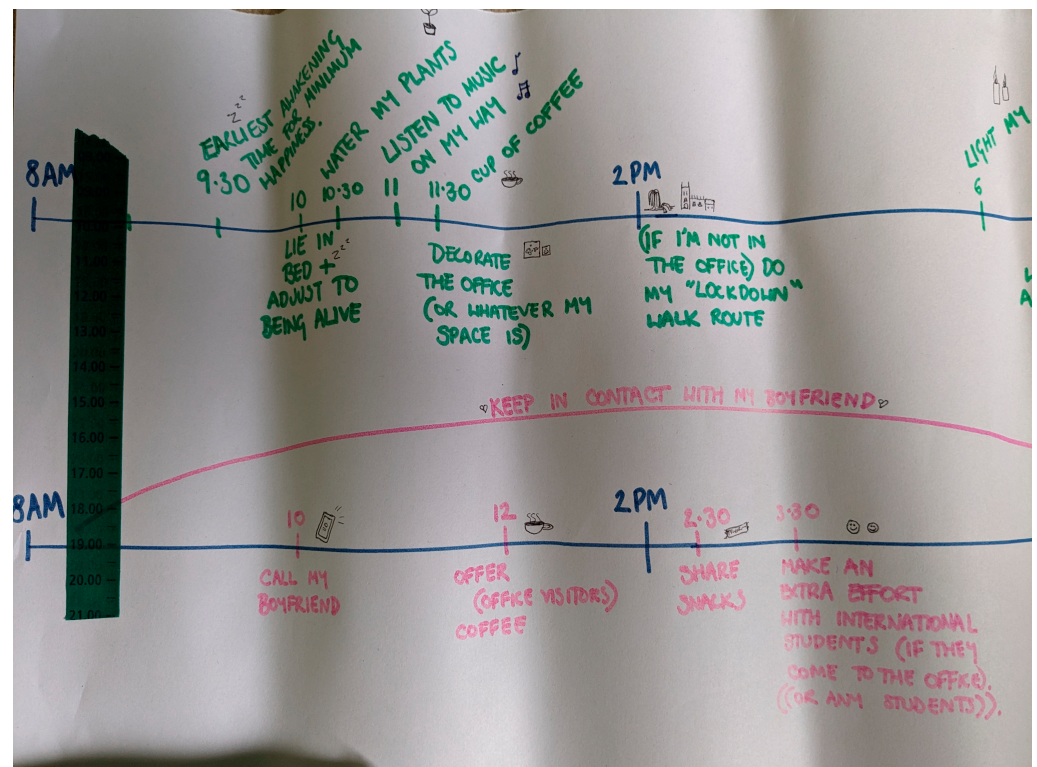


Figure 1. Empathy timeline from the study.

Participants were given prompts to complete this activity:

- What makes you feel comfortable and secure during different parts of the day?/What do you do to try and increase the comfort of others?
- What do you do to adapt your surroundings to feel more at home?/Do you notice or help anyone around you adapting their surroundings to feel more at home?
- What do you do or where do you go that has an impact on your sense of belonging?/What do you do to try and increase this feeling in others?

These prompts were chosen as a way to make the activity clearer, and also to as a way to discuss themes associated with social exclusion and urban space. This activity was conducted individually by participants. They then discussed their empathy timelines as a group, relating the items plotted on the lines to the experiences or places plotted on their maps in the first activity.

2.2. Workshop 2: Story Sharing

The second workshop started with participants using Google cardboard virtual reality headsets to trial some relevant immersive digital story examples, told using 360-degree video and virtual reality. These examples included my own immersive digital story created for the research. I created this story as a way of prototyping the methodology, but also to examine my own positionality in the research. As an individual, I experienced a type of homelessness when I was 18, which, at the time of writing, was 13 years ago. For 6 months, I lived in squatter housing in London with 8 other people. The immersive digital story was about some of my experiences during this time (Figure 2). Showing this story as part of the demonstration of the medium in this study was also a way of evaluating how this affected the co-creative relationship between myself and the participants, and whether it had an impact on what the participants shared.



Figure 2. Still from the researcher's own immersive digital story.

Following the immersive media demonstration, participants engaged in a story circle activity, as used in digital storytelling methodologies (Lambert 2012). Story circles as a method originate in community organising for social change and have been widely used in pedagogy, psychology and sociology as a tool for philosophical inquiry and collaborative critical thinking practices (Fletcher et al. 2021).

In Notes on Learning Circles, Wallace describes the most important characteristics of a story circle as the following:

- People feel safe to say what they believe and what they feel
- Deep listening is easy and natural
- There is a spirit of equality, of mutual trust and respect; an assumption that each person has valuable experiences and ideas to contribute
- People are often surprised at what they say and what they hear others say
- There is a sense that the participants are creating together, here and now (Wallace 2004, p. 13).

In the story circle, participants shared their ideas for stories with the group. The story circle created a space for participants to not only share but also to ask others what they could add to their idea. Ahead of the workshop, participants had been provided with the prompts below and asked to come to the workshop with an idea of a story that they could share with the group.

The prompts were as follows:

- A place in Loughborough reminds me of... Detail how a place in Loughborough reminds you of a past memory or experience. Is there anything in Loughborough that feels particularly familiar?
- A disruption of an ordinary routine in Loughborough... Tell of a time when a normal routine of yours in Loughborough was disrupted or unexpectedly changed.
- A repeated journey through Loughborough... Are there any journeys that you have completed over and over in Loughborough? Either by transport or foot. Why do/did you take this particular route?

In the remainder of the workshop, participants wrote a script to be recorded as a voiceover in the next session, which would be used in their story. During this session, each participant discussed with the investigator what 360-degree filmed footage they would like to be collected for use in their digital story. The decision to film the 360-degree footage independently, rather than with participants, was initially due to time constraints and logistics, but also to make my role more active in co-creating the immersive digital stories, and to evaluate what impact this had on the stories themselves and the co-creative relationship. In the week between the second and third workshops, the investigator filmed

and collected all 20 of the suggested 360-degree filmed footage (digital assets) from around Loughborough. This amounted to between 4 and 6 assets per participant.

2.3. Workshop 3: Immersive Digital Storytelling

In the final workshop, participants started by recording a voiceover from their script written in the previous workshop. The digital assets collected between workshop 2 and workshop 3 were arranged ahead of time into individual participant Adobe Premiere Pro projects for their use. Before creating their stories, participants were given a demonstration of editing 360-degree video for VR and an information sheet detailing the main editing required on Premiere Pro. To aid participants, files had been processed as 360-degree videos ahead of time, meaning that the main task that they needed to perform was to edit the length and order of clips. Following the demonstration, participants were given time to work on their films independently, with the facilitator on hand to aid with any difficulties. Once all participants had reached an ending point with their films, they sent their files to the investigator, who added any titles or text requested by participants and exported the pieces into virtual reality films following the workshop. The workshop ended with an audio-recorded discussion between myself and all of the participants about how the immersive digital stories could be shown and exhibited in Loughborough, and also how the participants had found the process overall. This discussion was intended as an extension of the co-creative potential of the methodology, encouraging not just the final immersive digital stories to be co-created but also the ways in which these stories were shown.

3. Results and Discussion

The results from the three workshops were collected through the final co-created immersive digital stories, audio recordings of the participant's contributions during the workshop and feedback forms filled out by participants at the end of each workshop, as well as my own personal reflections of the process, including that of facilitating the workshops but also of the additional tasks involved in creating the immersive digital stories outside of the workshops. The results were collected in this way so as to discuss how the methodology was implemented to create immersive digital stories and also what insights could be gained about co-creation, digital storytelling, place and immersive media from this feasibility study.

3.1. The Immersive Digital Stories

The final immersive digital stories are set in different locations around Loughborough. The stories describe unfamiliar and isolated experiences living in Loughborough during tough periods, visiting for work, and generally reflect the participants' collective experiences of being doctoral researchers in Loughborough. Across the stories, there are themes of isolation, threat and comfort. Each of the four participants created a story; these stories are described in more detail below.

In *Great Central Railway*, we follow the journey of a father and young son rushing to reach the railway in time to see the steam trains (Figure 3). Great Central Railway is a heritage railway in Loughborough, which runs full-size steam engine trains at particular scheduled times throughout the year. In the voiceover, the narrator describes how "the heritage railway signals its timetable by the flow of steam" and how he grabs his son's hand, looks both ways for cars and wonders, "what could we have changed to make a difference this time?"

The Dog and The Tower is about a chance encounter while taking a walk during one of the COVID-19 lockdowns (Figure 4). The participant thinks they are simply being beckoned over to pet a dog by Carillion Tower, a war memorial in Loughborough's Queens Park, when in fact they are being offered a rare piece of Loughborough's history. The voiceover in the story tells of how "the man in the doorway raises an eyebrow and gestures behind him 'Come on—do you want a bell clapper?'" ; confused, the narrator peers around him to see the tower floor covered in rows of red chunks of metal, "The old tower bell clappers!"



Figure 3. Still from *Great Central Railway*.



Figure 4. Still from *The Dog and The Tower*.

Lost in Space tells of a time when the narrator walked through a shopping centre in Loughborough and ended up in a quiet church yard, all whilst reflecting on a memory of witnessing a fight in a public walkway in their hometown of Milton Keynes (Figure 5). They describe exiting the walkway and relate it to the scene in Loughborough: “as I crossed the threshold, a wall of noise and activity assaulted my senses. All the world was here, packed into plastic shopping sensations, sales, purchases, shiny objects, half price bargains and sweaty bodies”.

Frederick Street, named after one of the streets featured in the story, is about a moment of transition whilst the participant was living away from home for the first time, feeling isolated, and the places that they went to avoid their rented accommodation (Figure 6). The narrator describes their accommodation, saying that, “we didn’t have a TV anymore because Dave had thrown it out of the back living room window” and remembering how they would “stand outside the Frederick Street building next to the bins, across from the pub on the corner, trying to blend in with the other students, feeling lost”.

There is a contrast between the types of landmarks featured in the stories, with some being historic landmarks, whereas others are universal landmarks like shopping centres and schools. There are also different types of memories in the stories, recalling both recent and formative experiences. Alongside this is the 360-degree video, which gives an interesting sense of time in the stories, that of being suspended in time but also of the

external world carrying on regardless. This effect seemingly fits the themes of isolation and transition and complements the complex relationships with place depicted.



Figure 5. Still from *Lost in Space*.



Figure 6. Still from *Frederick Street*.

3.2. The Workshops: Adapting a Digital Storytelling Framework

The workshops were partly adapted from Lambert's digital storytelling framework, with features including story prompts, sharing ideas in a story circle and the final stories being 2–3 min-long multimedia pieces accompanied by a narrated script (Lambert 2012).

The prompts in this research somewhat follow the digital storytelling principles from this framework, but also deviate from these principles in how they were developed and in their specificity. Prompts are used in digital storytelling to elicit concentrated thoughts and powerful images from a lifetime of memories (Ribeiro 2016). The specific prompts used in the workshop were "A place in Loughborough reminds me of. . .", "A disruption of an ordinary routine in Loughborough. . ." and "A repeated journey through Loughborough. . .". These prompts can be mapped onto the types of prompts described in *Digital Storytelling: Capturing Lives, Creating Community* (Lambert 2012), of "(re)discovery", which is based around how our old stories inform our new ones, and "heeding the unexpected call", based around moments when one is called from one's ordinary existence to explore the depths. However, the prompts were primarily inspired by the mapping exercise. On the maps, participants highlighted locations that reminded them of places where they had previously

lived and travelled to, their repeated routines when in Loughborough and common routes and journeys that they took through the town. This means of developing prompts was intended to create narratives about Loughborough, but also to further explore co-creation in the workshops, with participants being given an opportunity to shape the direction of their own stories and the stories of other participants.

The prompts did seem to have the effect of creating a collective story amongst the participants. The experiences discussed revolved around not being from Loughborough and navigating through unfamiliar places at key moments in one's life. The idea of a collective story may also have made sharing amongst the group more natural, with one participant commenting that "through the shared experience of being doctoral researchers, there's an existing sense of trust". Although some similarities can be drawn between the overall experiences of the participants, the ways in which these experiences were expressed both through the narrative and through the chosen virtual reality visuals showed a striking difference in perspective and how individual participants experienced place. Each of the four stories created takes place over slightly differing time periods and they differ in how they balance narrative chronology with memory. This is a strong indicator that, despite the specificity of the prompts used in this methodology and the deviation from traditional prompts, which could have the effect of narrowing the scope of what can be expressed, stories created in this way will still be individual and personal and communicate a diversity of experience and differing relationships with place.

As another deviation from the traditional story circle, the visual experience mapping activities similarly encouraged participants to reflect on their experiences in a group. Through the mapping exercise, participants also developed ideas on the 360-degree footage that they wished to be collected for their story. In response to these activities, participants directly questioned whether the stories were only being co-created by the researcher and the individual participant or whether the other participants played a role in the creation of the story, a question that the feasibility study had been intended to explore. On the mapping activity, one participant commented, "are we co-creating or creating in the same space?" This was similarly reflected in the written feedback: whilst working as a group added to the enjoyment of the process, decisions about what to create were often unaffected by the responses of others in the group.

The act of co-creating a physical artefact with other participants and sharing with the group did not form a strong conscious co-creative relationship amongst the participants. Whilst it could be argued that an unconscious and unintended relationship was formed, it would perhaps be better to describe this as affect rather than collaboration, or as co-creating an atmosphere in which participants shared and developed their stories. This atmosphere can be related to what Wilson describes as slow storytelling and hybridity, where knowledge and co-production are an "evolving, fluid and at times provisional process" (Wilson 2021, p. 122). Despite the fast nature of digital storytelling and technology, creative workshop processes are collaborative and drawn out, allowing space for reflection and learning (Wilson 2021, p. 115).

3.3. The Workshops: Co-Creating Immersive Media

The use of immersive media is the most significant way in which the methods of this study differ from traditional digital storytelling. The use of images, audio and film usually allows digital storytelling participants to compose and edit their final pieces independently. However, using the particular medium of 360-degree video and virtual reality, there is a certain amount of facilitation and co-creation required, not only practically but also theoretically in representing an experience in this way. This study therefore provided a lot of insight into not only the best ways to co-create immersive digital stories but also the implications of this.

When demonstrating the medium, using Google cardboard VR headsets and mobile phones, participants were provided with stories from the UN, The New York Times and my own immersive digital story created for the research. The response to my story in

particular was positive, as it gave participants an idea of what the stories that they were creating could be like. One participant commented that, “seeing the cars pass by in the VR headset, reminded me that it was something that you had actually experienced”, suggesting that viewing the immersive digital story of someone familiar enabled them to understand the effect of immersion through 360-degree film and how to create this effect themselves. The demonstration of immersive media is an example of what Sanders and Stappers refer to as “scaffolding” (Sanders and Stappers 2008). It is a means of acknowledging that different levels of creativity exist and offering relevant experiences to facilitate people’s expressions of creativity, reinforcing the researcher’s role of facilitator in co-creation (Sanders and Stappers 2008). However, in this study, there was the added impact of the relevant experience being something that I, the researcher, had created. As well as facilitating participants’ expressions of creativity, I more explicitly demonstrated the emotional impact and affect that the stories could have and introduced narrative themes.

This potential for affect suggests that immersive digital stories can still provide understanding and knowledge, without participants needing to share explicit details that they may not be comfortable sharing. The digital reproduction of place and time in immersive media is referred to as embodiment, capable of representing the physicality of the space as well as the feeling of it. As described by Kidd, “the cultural significance of place might be transferred in ways that are more nuanced, visceral and ‘felt’” (Kidd 2018, p. 54). Embodiment is a type of sense-making “informed by the ways space is experienced through the body”—in this case, sound and movement—and through what might be termed the physiology of affect (Kidd 2018, p. 54). Through demonstrating embodiment in my own example of immersive digital storytelling, I was able to facilitate ways of exploring this type of sense-making when choosing which 360-degree filmed footage to include. In the context of digital storytelling methodologies, this holds potential not only for the development of different types of narratives but also in creating spaces where participants feel comfortable and creative, despite what they choose to share.

This can be seen in how the participants engaged with creating these stories, creating disjointed voiceovers and not following a linear continuous narrative accompanied by real-time footage of places around Loughborough. The relationship between these two elements can be seen as “a symbiosis between the space and the content, enabling a new kind of experience or knowledge to emerge” (Kidd 2018, p. 56). This relates to de Jong’s analysis of how diegetic sounds within 360-degree filmed footage communicate historical knowledge, and non-diegetic sounds, such as voiceover narratives, are used as affective triggers. In this way, a sonic immersion is achieved that induces viewers to feel as if they are in the past, as well as inviting them to emotionally engage with this past (De Jong 2018). Due to my extended involvement through actively filming the 360-degree footage for participants, the relationship between the diegetic and non-diegetic sounds can also be seen as a metaphor for my role as co-creator, with the visuals and sounds in the footage communicating my own experience in the relevant places and the voiceover communicating knowledge and affective triggers relating to those places. This further implies that, in this role, my reception and experience of participants’ stories formed an active part of the finished, co-created piece.

This relationship between the immediacy of the digital assets and the recorded voiceover of the story arguably allows for a type of “co-presence” between teller and listener. Whilst this “co-presence” is not as straightforward as that in oral storytelling, where the teller and listener are in the same space and can immediately respond to the story, the use of virtual reality recreates a sense of there being a listener present. This relates back to the reflective nature and hybridity of digital storytelling (Wilson 2021), implying that virtual reality can reference the social, community building nature of storytelling.

Despite how the capturing of the film for participants was significant in my role as co-creator, some participants expressed a wish for more control. In the written feedback, participants suggested that a sense of control could be strengthened through providing 360-degree storyboard templates, a suggestion that will be implemented in the main study.

Other participants did mention, however, that asking for film to be captured on their behalf made them feel like a director. This implies an interesting dynamic in the co-creative relationship between researcher and participant in this methodology, where, although there are significant contributions from both, it is all in service of the ideas of the participant and it is the participant who has the final say.

4. Conclusions

There are several implications of this study for both the development of an immersive digital storytelling methodology and the relationship between the local area and belonging. This can be seen in both the ways in which digital storytelling principles have been adapted throughout the study and the types of stories that have been created. The methods of creating maps and developing story prompts from this exercise will be adapted for use within homelessness contexts. This adaption will also be informed by the additional prototyping of the methodology with similar groups and researcher immersion in homelessness support and service contexts. Some of the ways in which these activities may be adapted include making them shorter and more easily digestible and the overall structure of the workshops more flexible and optional.

A limitation in this approach that can be identified from this study is the balance between creative freedom and scaffolding, which can be seen in some of the struggles encountered by participants when describing the footage that they sought for their stories. When using these methods in homelessness contexts, a clearer 360-degree storyboard will be provided, as well as clearer examples of what their stories may look like. Although the methods in this study produced stories that addressed comfort, threat and isolation, setting a good basis for continuation with similar methods, a lack of shared connection between participants in homelessness contexts may result in participants sharing less and their stories diverging from these themes. This will be addressed when working with these participants through working in smaller groups and/or individually with participants.

The most significant findings in the feasibility study were around the co-creative relationships formed through using immersive media, both intentional and unintentional. As, in this study, it was the researcher who captured the 360-degree footage, the researcher's experience formed an active part of the finished pieces. This co-creation shows the multi-faceted potential of immersive digital stories, to include multiple perspectives in what appears at first to be one. This adds an element of reflection to the pieces but also emphasises co-constructed ideas about places, strengthening a sense of shared reality amongst co-creators but also with the viewer. Despite the contributions of the researcher, participants still described their role as the director and ultimately saw themselves as in control of the narrative. This represents a strength in the approach and has positive implications for concerns around this type of storytelling being extractive, a particular concern when working with vulnerable and marginalised communities such as those who are homeless.

The co-creative relationship between researcher and participant in immersive media could be further explored by filming the 360-degree footage alongside the participant and noting the effect on how the story is then perceived by both researcher and participant. The co-creative relationships, as well as the nature of group working in these methods, also offer further opportunities to investigate the relationship between co-creation and the formation of empathy and what impact this may have on future research.

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References

- Allmark, Nigel. 2020. "Nothing about Us without Us": Towards a Transformative Vision of Co-Production in the Homelessness Sector. Ph.D. dissertation, Manchester Metropolitan University, Manchester, UK.
- Amsler, Sarah, and Chris Bolsmann. 2012. University ranking as social exclusion. *British Journal of Sociology of Education* 33: 283–301. [CrossRef]
- Armstrong, Sara. 2003. The power of storytelling in education. In *Snapshots! Educational Insights from the Thornburg Center*. Edited by Sara Armstrong. Lake Barrington: The Thornburg Center, pp. 11–20.
- Bell, David, and Kate Pahl. 2018. Co-production: Towards a utopian approach. *International Journal of Social Research Methodology* 21: 105–17. [CrossRef]
- Brandsen, Taco, and Marlies Honigh. 2018. Definitions of Co-production and Co-creation. In *Co-Production and Co-Creation: Engaging Citizens in Public Services*. Edited by Taco Brandsen, Trui Steen and Bram Veschuere. London: Routledge.
- Bruner, Jerome. 1991. Self-Making and World-Making. *Journal of Aesthetic Education* 25: 67–78. [CrossRef]
- Bublitz, Melissa G., Jennifer Edson Escalas, Laura A. Peracchio, Pia Furchheim, Stacy Landreth Grau, Anne Hamby, Mark J. Kay, Mark R. Mulder, and Andrea Scott. 2016. Transformative Stories: A Framework for Crafting Stories for Social Impact Organizations. *Journal of Public Policy & Marketing* 35: 237–48.
- Cavarero, Adrianna. 2000. *Relating Narratives: Storytelling and Selfhood*. London and New York: Routledge.
- Chan, Chitlat Larry, and Ka Man Yau. 2019. Digital storytelling for social work interventions. In *Oxford Bibliographies in Social Work*. Oxford: Oxford University Press. [CrossRef]
- Cizek, Katerina, and William Uricchio. 2019. Introduction and Overview. In *Collective Wisdom*, 1st ed. Cambridge: The MIT Press.
- Cross, Nick, ed. 1972. *Proceedings of the Design Research Society International Conference, 1971: Design Participation*. London: Design Research Society.
- Degnegaard, Rex. 2014. Co-creation, prevailing streams and a future design trajectory. *CoDesign* 10: 96–111. [CrossRef]
- De Jager, Adele, Andrea Fogarty, Anna Tewson, Caroline Lenette, and Katherine M. Boydell. 2017. Digital Storytelling in Research: A Systematic Review. *The Qualitative Report* 22: 2548–82. [CrossRef]
- De Jong, Steffi. 2018. *The Witness as Object: Video Testimonies in Holocaust Museums*. New York: Berghahn Books.
- De Vally, Darren. 2019. How Co-Production Creates Opportunities for All. Available online: <https://blog.shelter.org.uk/2019/07/how-co-production-creates-opportunities-for-all/> (accessed on 26 October 2023).
- ERS Research and Consultancy. 2015. *Leicestershire Market Towns Research Final Report*. Available online: <https://www.blaby.gov.uk/media/2523/market-towns-report.pdf> (accessed on 11 January 2024).
- Fletcher, Natalie M., Maughn Rollins Gregory, Peter Shea, and Ariel Sykes. 2021. The Story Circle as a Practice of Democratic, Critical Inquiry. *Childhood & Philosophy* 17: 1–42.
- Fuller, Clare, and Charles Trevel. 2012. *Brand Together: How Co-Creation Generates Innovation and Re-Energizes Brands*. London: Kogan Page.
- Gomez, Javier, Letizia Jaccheri, Manolis Maragoudakis, and Kshitij Sharma. 2019. Digital storytelling for good with Tappetina game. *Entertainment Computing* 30: 100297. [CrossRef]
- Homeless Link. 2022. Co-Production in Action. Available online: <https://homeless.org.uk/news/co-production-in-action/> (accessed on 26 October 2023).
- Jones, Sarah, and Steve Dawkins. 2018. Walking in someone else's shoes: Creating empathy in the practice of immersive film. *Media Practice & Education* 19: 298–312.
- Kidd, Jenny. 2018. 'Immersive' heritage encounters. *The Museum Review* 3: 1.
- Lambert, Joe. 2012. *Digital Storytelling: Capturing Lives, Creating Community*, 4th ed. New York: Routledge.
- Leadbeater, Charles. 2009. *The Art of With*. Manchester: Cornerhouse.
- Lenoir, René. 1974. *Les exclus: Un Français sur dix*. Paris: Editions du Seuil.
- Lewis, Patric J. 2011. Storytelling as Research/Research as Storytelling. *Qualitative Inquiry* 17: 505–10. [CrossRef]
- Lopreiato, Joseph O. 2016. *Healthcare Simulation Dictionary*. AHRQ Publication No. 16(17)-0043. Rockville: Agency for Healthcare Research and Quality.
- Marcuse, Peter. 1988. Perspectives on Homelessness. *Urban Affairs Quarterly* 23: 647–56. [CrossRef]
- Meadows, Daniel. 2003. Digital Storytelling: Research-Based Practice in New Media. *Visual Communication* 2: 189–93. [CrossRef]
- Meriluoto, Taina Maria. 2018. Between expertise and authenticity—Co-creation in Finnish Housing First Initiatives from the Experts'-by-experience Perspective. *European Journal of Homelessness* 12: 61–83.
- Nash, Kate. 2018. Virtual reality witness: Exploring the ethics of mediated presence. *Studies in Documentary Film* 12: 97–100. [CrossRef]
- National Housing Association. 2020. Our Principles of Co-Creation with Residents. Available online: <https://www.housing.org.uk/news-and-blogs/blogs/aasia-nisar/our-principles-of-co-creation-with-residents/> (accessed on 26 October 2023).

- Nutakor, Zoe. 2022. Student social experiences. In *Anti-Racism in Higher Education: An Action Guide for Change*, 1st ed. Edited by Arun Verma. Bristol: Bristol University Press.
- Ribeiro, Sandra. 2016. Developing intercultural awareness using digital storytelling. *Language and Intercultural Communication* 16: 1–14. [CrossRef]
- Rizzolatti, Giacomo, and Laila Craighero. 2004. The mirror-neuron system. *Annual Review of Neuroscience* 27: 169–92. [CrossRef]
- Rouse, Rebecca. 2021. Against the Instrumentalization of Empathy: Immersive Technologies and Social Change. In *Augmented and Mixed Reality for Communities*, 1st ed. Boca Raton: CRC Press, pp. 1–17.
- Sage, Melanie, Jonathan B. Singer, Andrea LaMarre, and Carla Rice. 2018. Digital Storytelling: Tools, Techniques, and Traditions. In *Digital Social Work*. Oxford: Oxford University Press, pp. 90–108.
- Sanders, Elizabeth, and Pieter Stappers. 2008. Co-creation and the New Landscapes of Design. *CoDesign* 4: 5–18. [CrossRef]
- Shapiro-Perl, Nina. 2017. 11 The Digital Story: Giving Voice to Unheard Washington. In *Deep Stories: Practicing, Teaching, and Learning Anthropology with Digital Storytelling*. Warsaw: De Gruyter Open Poland, pp. 170–78.
- Silver, Hilary. 2022. Social Exclusion. In *The Wiley Blackwell Encyclopedia of Urban and Regional Studies*. Edited by Anthony Orum. Hoboken: Wiley.
- Sliwinska, Magdalena. 2019. The Spirit of Public Space: Embodied through Writing and Movement. *Journal of Interior Design* 44: 13–27. [CrossRef]
- Stein, Edith. 1964. *Translated as On the Problem of Empathy*. Translated by Waltraut Stein. The Hague: Springer Science+Business Media Dordrecht.
- Sutton, Charlie. 2018. *Mature Students and Social Isolation: Being Excluded or Choosing to Be Alone?* Loughborough: Loughborough University.
- Terkenli, Theano. 1995. Home as a Region. *Geographical Review* 85: 324–34. [CrossRef]
- United Kingdom Census. 2021. *Office for National Statistics*. Available online: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesenglandandwales/census2021unroundeddata/pdf> (accessed on 11 July 2023).
- Vandemark, Lisa M. 2007. Promoting the Sense of Self, Place, and Belonging in Displaced Persons: The Example of Homelessness. *Archives of Psychiatric Nursing* 21: 241–48. [CrossRef] [PubMed]
- Vischer, Robert. 1873. *Über das optische Formgefühl: Ein Beitrag zur Ästhetik*. Leipzig: Herman Credner, [English edition (1994): *On the optical sense of form: A contribution to aesthetics*. In *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893*. Edited by Harry Francis Mallgrave and Eleftherios Ikonomou. Santa Monica: Getty Center for the History of Art and the Humanities, pp. 89–123].
- Visser, Froukje Sleeswijk, Pieter Jan Stappers, Remko Van der Lugt, and Elizabeth B. N. Sanders. 2005. Contextmapping: Experiences from practice. *CoDesign* 1: 119–49. [CrossRef]
- Wachira, Elizabeth, and Kimberly Parker. 2018. Let's Show IT: Tackling Social Inequalities among Individuals Experiencing Homelessness through Digital Storytelling. Paper presented at the American Public Health Association, San Diego, CA, USA, November 10–14.
- Wallace, John. 2004. Notes on Learning Circles. In *Learning Circles: A Train-the-Trainers Approach*. Princeton: Bonner Foundation and Participating Campuses, pp. 10–23. Available online: <http://bonnernetwork.pbworks.com/f/BonCurFacilLearnCircles.pdf> (accessed on 28 September 2023).
- Walmsley, Ben. 2013. Co-creating theatre: Authentic engagement or inter-legitimation? *Cultural Trends* 22: 108–18. [CrossRef]
- White, Jon, and Sally Frost. 2023. Rough Sleeping Snapshot in England: Autumn 2022. GOV.UK. Available online: <https://www.gov.uk/government/statistics/rough-sleeping-snapshot-in-england-autumn-2022> (accessed on 11 January 2024).
- Wilson, Michael. 2021. Slow Storytelling and hybridity: Re-staging community storytelling as a tool for co-thinking. *Book 2.0* 11: 107–23. [CrossRef]
- Woods, Melanie, Mara Balestrini, Sihana Bejtullahu, Stefano Bocconi, Gijs Boerwinkel, Marc Boonstra, Douwe-Sjoerd Boschman, Guillem Camprodon, Saskia Coulson, Tomas Diez, and et al. 2018. *Citizen Sensing: A Toolkit*. Amsterdam: Making Sense. [CrossRef]

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