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A taxonomy of arts interventions for people with dementia: A framework to describe and explain the theory and practice of arts activities

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Abstract and keywords

Background and Objectives

The current evidence base for the arts and dementia has several limitations relating to the description, explanation, communication and simplification of arts interventions. Research addressing these challenges must be multi-disciplinary, taking account of humanities and science perspectives. Consequently, this research aimed to produce a taxonomy, or classification, of arts interventions for people with dementia as a contribution to this growing field.

Research Design and Methods

This research was underpinned by taxonomy and realist methodology. Taxonomy, the science of classification, produces a common language to name, define and describe the world around us. Realist theory explains how interventions 'work' and produce their effects.

The main findings in this paper were generated from a case study and a Delphi study.

Results

An arts and dementia taxonomy of twelve dimensions was developed: Art Form, Artistic elements, Artistic focus, Artistic materials, Arts activity, Arts approaches, Arts facilitators, Arts location, Competencies, Complementary arts, Intervention context, Principles.

Discussion and Implications

Arts interventions can be classified according to their contexts, mechanisms and outcomes. A range of stakeholders could benefit from the taxonomy, including people with dementia, artists, practitioners, carers, care staff, funders, commissioners, researchers and academics. Language relating to the arts and dementia can be adapted depending on the audience. This is a foundational model requiring further development within the arts and dementia community.

Keywords:

Arts interventions; Dementia; Classification; Mechanisms; Alzheimer's

A taxonomy of arts interventions for people with dementia: A framework to describe and explain the theory and practice of arts activities

Introduction

Arts interventions, for example arts therapy, interactive theatre, group poetry reading and cultural museum visits, can successfully enhance the care, wellbeing and quality of life for people living with dementia (Beard, 2011; de Medeiros and Basting, 2014; Windle et al., 2018; Zeilig, Killick and Fox, 2014). Like arts and health initiatives for other populations, for example people with learning disabilities or those in the criminal justice system, the arts can offer social, emotional and psychological benefits (The All-Party Parliamentary Group (APPG), 2017). For people with dementia in particular, the arts can strengthen identity and be a tool for delivering person-centred care (Kitwood, 1997). This necessitates a specific approach to arts interventions for people with dementia in order to meet their needs.

The arts and dementia is a growing field (Zeilig, 2015) with significant developments for research and practice (Camic, Zeilig and Crutch, 2018). However, the current evidence base has several limitations. There is no consensus on what arts interventions should include, and little has been done to identify their component parts (Burnside et al., 2017). Moreover, arts and dementia research lacks appropriate theoretical frameworks (Young, Camic and Tischler, 2016), and few studies have attempted to explain how the arts 'work' for people with dementia (Windle et al., 2017). Furthermore, the field has no common language to name and communicate the mechanisms and outcomes of arts interventions between multi-disciplinary partners – for example artists, care staff, researchers, funders and people living with dementia (Gray et al., 2017). In summary, the description, explanation, communication and simplification of arts interventions for people with dementia needs improving.

However, improvements to the evidence base must be accessible and relevant for science, humanities and dementia care paradigms. Satisfying the rigorous requirements of scientific research (Pawson et al., 2005), while maintaining the interpretative essence of the arts (Killick and Allan, 2011) and a person-centred approach (Kitwood, 1997), requires a blended methodology (Newman et al., 2016).

This research therefore suggests that applying the theoretical model of taxonomy – the science of classification – to the field of the arts and dementia would contribute to these

evidence base limitations, in a way that enriches and supports multi-disciplinary perspectives. The research is also underpinned by realist methodology.

Taxonomy

Taxonomy is used to name, describe, define and explain the world around us (Godfray and Knapp, 2004). Taxonomies can simplify complex phenomena and compare healthcare interventions (Bradley, Curry and Devers, 2007). They can also outline curriculum content and identify behaviours during activities (Bloom et al., 1956). In the arts, taxonomies have been developed to categorise music and its relationship to health, wellbeing and care (Foster, Pearson and Berends, 2016; Wärja and Bonde, 2014). Moreover, taxonomy has been proposed as a solution for improving communication amongst arts therapists (Springham, 2016). Taxonomy increases understanding by providing a nomenclature, or common language for stakeholders (Bailey, 1994; Godfray and Knapp, 2004).

Existing classifications of the arts and dementia

A number of arts and dementia research programmes have already sought to classify components of the field, showing the relevance of this approach. However, none take a unified view of all art forms and interventions – a gap this research sought to fill.

The *Dementia and Imagination* project, which implemented and evaluated a multi-site programme of visual arts interventions for people with dementia, identifies seven ingredients for excellent arts practice: artists understanding dementia; a safe and supportive environment; a structure; inspiration, imagination, creativity, enjoyment and celebration; social connections; personal development; values and ethics (Parkinson, Windle and Taylor, 2017; Windle et al., 2018). These are comparable to five elements of meaningful arts experiences for people with dementia identified by Basting (2017): expression; connection; purpose; pleasure; creative process and product. In turn, Bellass et al. (2018) identify six dimensions for a more inclusive approach to dementia and creativity: everyday life and creativity; power relations; operationalising creativity; affective ambivalence; difference; reciprocity.

Additional models within the fields of arts and health (Fancourt, 2017), music therapy (Bonde, 2011) and creative ageing (Cutler, 2009) have also been developed, which are relevant to the arts and dementia. Fancourt (2017) identifies technology as its own dimension, while Cutler (2009) names three distinct art forms (cross-media, performing arts and visual arts).

Realist methodology

Realist methodology is a process of theory building and testing, consulting with real world expertise to determine 'what works, for whom, under what circumstances, how and why?' (Pawson et al., 2005; Wong et al., 2013). It balances the rigour of positivism, typically associated with scientific research, with an interpretive or constructivist approach which is more appropriate for the humanities and the arts (Wong et al., 2013). Realist methodology is underpinned by a number of realist theories, for example the CMO configuration, which seeks to reduce complexity by uncovering the Contexts, Mechanisms (hidden processes) and Outcomes of interventions (Astbury and Leeuw, 2010; Pawson et al., 2005). CMO configurations can explain how interventions 'work'.

Realist methodology can develop a theoretical framework for arts interventions. It has been recommended for arts and health research (The All-Party Parliamentary Group (APPG), 2017) and has been used by other arts and dementia projects (Windle et al., 2014).

Methods

The aims of this research were to produce a taxonomy of the arts and dementia in order to:

- Identify and describe the component parts of an arts intervention for people with dementia;

- Suggest and explain how arts interventions 'work' and produce their effects;

- Improve multi-disciplinary communication;

- Map and simplify the complex field of the arts and dementia.

All types of arts intervention, therapy and activity were considered in this research, irrespective of who delivers and participates in them. The unifying and qualifying criterion is that the arts are being used to meet the psychosocial needs of people with dementia (Kitwood, 1997). Arts intervention is used throughout this work as an all-encompassing, umbrella term – a decision which is explored in the research and discussed later in this paper. Furthermore, all stages of dementia are considered by the taxonomy. Previous research has recognised the relevance of dementia severity to arts engagement (Young, Camic and Tischler, 2016).

Accordingly, the taxonomy recognises that arts interventions must be person-centred to account for these different needs and contexts.

These objectives are ambitious, and consequently this research recognises that the resulting contribution is a foundational model which requires further scrutiny and development within the arts and dementia community.

Phase one of this research: Version 1 of the taxonomy

Phase one of this research used a literature review and a series of discussion groups with stakeholders to identify the principles of arts interventions for people with dementia (Cousins et al., 2018). Principles are the characterising components of arts interventions, and along with their accompanying features, they offer a nomenclature – a common language – to describe, explain, communicate and simplify the arts and dementia.

Elements of systematic and realist review informed the literature review method, where four databases were searched using keywords related to the arts and dementia, for example *Dance*, *Creativ** and *Gallery*. Relevant grey literature and real world practitioner reports were also included. The literature was coded to identify the principles of arts interventions (Braun and Clarke, 2006). Three focus groups and two interactive workshops were conducted with real world stakeholders, for example artists, practitioners, carers, care staff and researchers, to verify and develop the principles identified in the literature. Each discussion group was formally conducted, audio recorded and transcribed by the researcher (EC), supplemented by note taking (Cousins et al., 2018).

A realist synthesis of the phase one data – the literature and five discussion groups – produced Version 1 of the taxonomy. A realist synthesis uses a realist theory, in this case the CMO configuration, to interpret research findings (Pawson et al., 2005; Wong et al., 2013). Consequently, six dimensions of arts interventions were proposed, derived from themes in the research data, which could be interpreted as Contexts, Mechanisms and Outcomes: **Artistic characteristics** e.g. rhythm and rhyme, **Artistic focus** e.g. arts with, for, by or about people with dementia, **Arts modality** e.g. dance or visual art, **Circumstances** e.g. one to one or group, **Competencies** e.g. dementia care training (all Contexts), **Principles** e.g. expression and connection (Mechanisms and Outcomes).

Phase two of this research – reported in this paper – used two methods to test, refine and further develop Version 1 of the taxonomy: a case study and a Delphi study. This resulted in Version 2 of the taxonomy, also reported later in this paper.

Ethical approval

Ethical approval was granted by the University of Nottingham's Division of Psychiatry and Applied Psychology Ethics Committee for the case study and the Delphi study (Ethics references: 215 and 213 respectively). The case study took place in Denmark following the award of a research fellowship, therefore all participant documents were translated into Danish as necessary. Where participants lacked capacity to consent, proxy consent was given by spouses or adult children.

Case study

A case study was planned in order to explore the Version 1 taxonomy dimensions in an empirical setting, namely a live arts intervention. Music therapy was selected as the example arts intervention for the case study because its holistic benefits for people with dementia are well documented (Ridder et al., 2013; van der Steen et al., 2018).

The case study was conducted according to the protocol and design outlined by Yin (2012; 2014), seeking to test a number of hypotheses and theoretical propositions. For example, it was proposed that principles are: observable; applicable descriptions to an empirical arts intervention; able to explain how arts interventions 'work' for people with dementia. The case study comprised observations, focus groups and interviews with key participants (Gillham, 2000; Stake, 1995).

The case study took place in Denmark between April and June 2017, and was undertaken across six sites delivering or researching music therapy (care home, school, hospital, rehabilitation centre, hospice, university) which were visited by the researcher (EC) for data collection. Because the researcher does not speak Danish, music and its artistic characteristics, such as rhythm, were the sole analytic focus during observations – giving richer insights into how the arts 'work'. Interviews and focus groups, varying in size from 3 to 9 participants, were conducted in English. During the case study, the researcher was based at Aalborg University.

Thirty-eight participants were recruited via email or in person, with the help of colleagues at Aalborg university and local music therapy practitioners: 14 people living with dementia,

nine music therapists and researchers, seven music therapists, one music therapy researcher, six care staff (including one care manager) and one person with acquired brain injury. Altogether, 11 music therapy observations, six interviews and five focus groups were completed. Focus group questions were broad, for example exploring components which made music therapy 'work'. Interviews with music therapists helped to verify observations made by the researcher during the live interventions. Music therapy for other client groups, for example acquired brain injury, was also included in the case study. This offered an opportunity for comparison to ascertain how music therapy – and consequently arts interventions more broadly – could be tailored to meet the particular needs of people with dementia. These specific elements could then be added to the taxonomy where necessary.

The case study resulted in a synthesis of the data collected across the six sites – the music therapy observations, focus groups and interviews – which generated insights into the six proposed taxonomy dimensions and the case study hypotheses (Yin, 2014). These findings had implications for Version 2 of the taxonomy. Further detail regarding the case study data analysis, and the Delphi study data analysis, is reported in a subsequent section of this paper.

Delphi study

Concurrently, a three stage online Delphi questionnaire was used to test Version 1 of the taxonomy – especially its proposed language, definitions and dimensions – with a broad range of expert arts and dementia stakeholders. Delphi studies aggregate multiple opinions, over a series of questionnaires, resulting in group consensus (von der Gracht, 2012). Delphi studies can define concepts, develop intervention contents and improve classifications (Jorm, 2015). Consequently, this was a fitting method for refining the taxonomy, and allowed individual interpretation to be balanced with general outcomes to suit a majority.

Each Delphi questionnaire asked participants the appropriateness of taxonomy as a term alongside given alternatives, and the extent to which the dimensions from Version 1 of the taxonomy were useful, clear and accurate in describing, explaining, communicating and simplifying the arts and dementia. The first Delphi questionnaire was piloted with peers and colleagues to ensure quality (Day and Bobeva, 2005; Jorm, 2015).

Fifty-two arts and dementia experts were contacted by email to participate, and 24 agreed to take part in the Delphi study. Expertise was defined on the basis of their published work, professional practice or lived experience. The participants included academics, practitioners, therapists, artists, arts managers, activity co-ordinators, a carer and a psychiatrist, from six

different countries. Most Delphi studies recruit 15-20 participants, so 24 was deemed an adequate number on reflection, without widening the search and compromising the participant criteria, especially given the breadth of art forms and expertise represented: poetry, shared reading, music, dance, clowning, theatre, visual art, therapy, care provision, arts intervention development, implementation and evaluation. Conducting the Delphi study online meant that participants could be based all over the world. Anonymity encouraged more honest replies (Hsu and Sandford, 2007). The Delphi study was conducted between May and October 2017. The questionnaire response rates remained fairly stable. There were 22 responses for the first questionnaire, 19 for the second, and 21 for the third.

Data analysis

The case study and Delphi study data were analysed separately to produce independent findings. However, both studies offered an opportunity to test and refine Version 1 of the taxonomy, so consequently used similar methods of data analysis. The case study data comprised verbatim transcripts from the focus groups and interviews, as well as field note data and diary reflections data from the observations. The Delphi study data comprised participants' answers to ranking or multiple choice questions, as well as explanatory free text responses to open questions.

The qualitative case study and Delphi study data were coded deductively (Braun and Clarke, 2006), using Version 1 of the taxonomy as a theoretical model, to verify if this hypothesis was transferable to other settings and audiences. The data were also coded inductively (Braun and Clarke, 2006), to elicit new findings not yet captured in Version 1 of the taxonomy model. Where relevant, these inductive codes were grouped into themes which became new taxonomy dimensions.

In addition, likert scale questions in the Delphi study, which measured participant agreement with a series of descriptions and explanations relating to the arts and dementia, were analysed using basic descriptive statistics (von der Gracht, 2012).

A cumulative synthesis of the research findings (from phase one, the case study and the Delphi study) produced Version 2 of the taxonomy. This synthesis applied elements of realist theory to interpret the findings and offer a theoretical explanation relating to arts interventions.

Results

Twelve descriptive dimensions were conceptualised for Version 2 of the taxonomy of arts interventions for people with dementia: Art Form, Artistic elements, Artistic focus, Artistic materials, Arts activity, Arts approaches, Arts facilitators, Arts location, Competencies, Complementary arts, Intervention context, Principles (Figure 1). This taxonomy presents a common language to describe, explain, communicate and simplify unique experiences.

The dimensions, like a taxonomy, are inter-related and inter-connected meaning that some intentionally overlap each other. The dimensions are best used collectively, and more than one dimension – and multiple contents from the same dimension – can be present in an arts intervention. Most dimensions include up to ten illustrative example components, which were identified during data collection, but the dimensions do not claim to be exhaustive. Figure 1 displays up to eight prototype examples for each dimension. Table 1 gives a summary description of each taxonomy dimension.

[FIGURE 1 HERE]

[TABLE 1 HERE]

The case study produced the Arts approaches dimension, and developed the Principles dimension by identifying features of music therapy that are applicable to arts interventions for people with dementia. It also laid the foundations for the Arts activity dimension and the Arts facilitators dimension.

The Delphi study produced four new dimensions: Arts location, Complementary arts, Arts facilitators and Artistic materials. Its findings also renamed several dimensions and principles from Version 1 of the taxonomy.

The Principles dimension and its features underpin the entire taxonomy, and have undergone the most significant development throughout phase one (Cousins et al., 2018) and phase two of this research. The case study and the Delphi study improved the Principles dimension considerably. Table 2 and Appendix 1 show the principles and their features, descriptions and lay summaries in more detail.

Consequently, the taxonomy shows that shared characterising components, principles, can describe arts interventions for people with dementia. It demonstrates that arts interventions can be defined generally, but delivered according to individual needs and preferences.

Moreover, arts interventions can be classified using a number of dimensions, and explained by outlining their contexts, mechanisms and outcomes.

[TABLE 2 HERE]

Discussion

This research identified twelve dimensions of a taxonomy to describe, explain, communicate and simplify arts interventions for people with dementia. The taxonomy is a flexible and dynamic model that can be adapted and developed as it is used by those engaged in research and practice. The taxonomy has several implications for the field and areas for discussion, as outlined in the following sections.

Explaining how the arts 'work'

Analysing the taxonomy using a realist theory, namely the CMO configuration (Pawson et al., 2005; Wong et al., 2013), has implications for understanding and explaining how the arts 'work' for people with dementia. Appendix 2 presents the taxonomy dimensions as a CMO configuration.

The case study and the Delphi study re-confirmed that the Principles dimension could be interpreted as outcomes *or* mechanisms of arts interventions. The fluidity of the principles as outcomes or mechanisms is due to the complexity of arts interventions, and how these components interact with each other (Windle et al., 2014; Windle et al., 2017). For example, combined, or working in sequence, these elements can cause different or certain effects (Rogers, 2008).

The case study and Delphi study identified Artistic elements, e.g. rhythm, rhyme, sound or harmony, as mechanisms of arts interventions that enable them to 'work' and be effective. Field notes from the case study illustrate how the rhythm of drumming produced a conversation and connection between the researcher and a participant with dementia:

"*Drumming with Participant 2, mirroring and repeating each other's rhythms. This generated a conversation of humour and curiosity and learning.*" (field notes, care home, session 4).

Furthermore, a Delphi participant stated that artistic elements could be called artistic *mechanisms* because they "*help give the 'why' a particular arts intervention works. It can help to isolate the actual element*" (artist, agency executive director and family carer).

The status of artistic elements as outcomes is untested. It is possible that artistic elements such as sound or harmony could be interpreted as outcomes, but this would require further investigation in an empirical setting. The remaining dimensions are all types of context relating to arts interventions, for example location, facilitator and details of the session.

To help explain this theory more practically, Figure 2 shows an example of a music intervention in a care home, inspired by observations from the case study, articulated as a CMO configuration. The model demonstrates how the taxonomy dimensions and their contents can be used dynamically, as a theory of change, to suggest how arts interventions 'work' (Windle et al., 2017).

[FIGURE 2 HERE]

While Figure 2 shows a retrospective interpretation of how an arts intervention 'works', similar models could be developed to help plan the possible contexts, mechanisms and outcomes of an arts intervention. Researchers and practitioners could work together to devise CMO configurations, comprised of taxonomy dimensions and their illustrative examples, which could function as blue prints or templates for arts interventions – recognising of course that delivery must be flexible in order to maintain person-centredness. Appendix 3 shows another example inspired by art gallery interventions found in the literature (Camic, Baker and Tischler, 2016).

The taxonomy dimensions can also be mapped to the Template for Intervention Description and Replication (TIDieR) (Campbell et al., 2018; Hoffman et al., 2014), which aims to standardise and improve the description and replication of healthcare interventions (Appendix 4).

This research requires further testing. These interpretations of the taxonomy dimensions offer a foundational theoretical framework for analysing, understanding and evaluating the arts and dementia.

Using the terms taxonomy and intervention

There are outstanding areas of debate amongst stakeholders relating to this research that the Delphi study was not able to settle. For example, opinions differed regarding the words 'taxonomy' and 'intervention'.

Framework was the preferred term amongst the Delphi participants for the model presented here, while taxonomy strongly divided the panel:

"Taxonomy sounds like the arts are trying to imitate the sciences, which is a big mistake." (Academic researcher).

"Taxonomy encapsulates…both science and the arts…and therefore is the most appropriate term" (Family Carer).

"[Taxonomy] *conveys something that the others do not…that the components are inter-related and moreover it shows the relationships"* (Academic).

It is critical that the language used in a taxonomy is accessible and useful to the end user (Godfray and Knapp, 2004). Consequently, the term framework is suggested for dissemination and arts practice outside of academia, while taxonomy remains the most fitting academic term. Appendix 5 contains a user-friendly version of the taxonomy for dissemination purposes.

The word 'intervention' was similarly challenged by the Delphi panel:

"I don't consider what I do to be an intervention; I hope that it is a shared experience" (Artist).

Intervention has been used in this research as a recognisably flawed term, but a best attempt to bridge the science and humanities paradigms inherent in this work. The implication is that an arts *intervention* is underpinned by theory, purpose and reflection, which connotes quality and evidence (Pawson, 2009). However, activity can be substituted for the word intervention where this is more appropriate – as it has been in the dissemination materials (Appendix 5).

Stakeholder beneficiaries

Five categories of stakeholder stand to benefit from this research. For artists and practitioners, the taxonomy presents synthesised knowledge to encourage reflection and improvement upon arts practice for people with dementia. For carers and care staff the taxonomy generates suggestions and inspiration for arts interventions.

For people with dementia the taxonomy could be used as a tool to propose options and ideas for different types of arts interventions. People with dementia are particularly at risk of aesthetic deprivation within their living environments, potentially lacking access to favourite music and activities (Moss and O'Neill, 2014). Thus, the taxonomy could be used in

consultation with primary and community care professionals to support joint decision-making relating to social prescribing or arts on prescription services (Bungay and Clift, 2010).

For funders and commissioners the taxonomy helps to define and describe the possible effects and outcomes of arts interventions. And for researchers and academics the taxonomy provides a framework to analyse and evaluate arts interventions. The taxonomy dimensions may also be a helpful framework for comparing diverse arts interventions, however the feasibility of this has not been fully explored and will subsequently require further research.

Overall, the taxonomy hopes to increase access for people with dementia to high quality arts interventions, underpinned by theory, purpose and evidence.

Limitations of this research

Version 2 of the taxonomy has been devised following multiple stages of theoretical and empirical data collection, consultation and development, with a diverse and international range of arts and dementia experts, including people with lived experience. This research has used innovative and strategic methods, and is the first known attempt to describe, explain, communicate and simplify the entire field of the arts and dementia.

However, this research has some limitations. Abstractions of the arts presented as a fixed formula are discouraged by some research (Crossick and Kaszynska, 2016) and there are concerns that taxonomies may present a rigid interpretation of phenomena (Bailey, 1994). Attempting to classify the arts and dementia has been a contentious and subjective process. As one case study participant stated:

> *"I think somehow it is not possible. But I still think we have to try".* (Music therapist and researcher, university music and dementia focus group).

It has therefore been necessary to balance approaches to generalisation and personalisation, aggregating findings to a broadly accepted level while ensuring the taxonomy still supports person-centred delivery and avoids prescriptiveness. To do this, the taxonomy sought to be as inclusive towards the arts as possible, and is consequently comprised of twelve dimensions – which could be perceived as too detailed for some stakeholders. However, its purpose is to bring all of the different strands of arts and dementia theory and practice into one collectivising framework. The worked examples (Figure 2 and Appendix 3) seek to demonstrate the taxonomy as user-friendly, and as a model that helps to simplify complexity.

Establishing a taxonomy poses challenges of maintenance and curatorship, especially as new knowledge is discovered (Godfray and Knapp, 2004). One solution could involve an organisation or network related to the arts and dementia taking on responsibility for updating and managing the taxonomy. However, this would require considerable resources.

A sole researcher (EC) undertook the case study and Delphi study data analysis, which could have affected the trustworthiness of the findings, though there were regular discussions with the other authors at each stage. The iterative, realist nature of the case study and Delphi study, which actively sought regular feedback from expert stakeholders regarding emergent findings, helped to make the research conclusions more rigorous and credible (Wong et al., 2013). The sample size of the two studies was relatively small, and the Delphi study did not have sustained participation throughout - though fatigue is anticipated with this method (Day and Bobeva, 2005; Hsu and Sandford, 2007). Where possible, these issues were counter-balanced by triangulating the data (Taylor, Bogdan and DeVault, 2016) and, in the case study, by verifying researcher conclusions from the observations in the focus group and interview discussions (Stake, 1995).

The case study was limited by taking place across just three months. Moreover, music therapy is a highly specialised profession and a complex academic field (Bonde, 2016). Consequently, the case study offers only a brief introduction to this subject using the taxonomy as a lens.

The taxonomy cannot hope to satisfy or reflect every person's experience of the arts and dementia. For example, there is an emphasis on material arts and participatory arts across the dimensions, because these approaches were prevalent in the research data – a finding which echoes other studies (Zeilig, Killick and Fox, 2014). Of course, these methods may not be appropriate for every person, but the features of choice and personalisation in the Selfhood principle help to safeguard a person-centred approach to the arts. Additionally, the ethos of co-production and co-creativity in the Arts facilitators dimension demonstrates how people with dementia can curate their own artistic experiences, alongside family members and care staff in conjunction with professional artists. This democratises the arts and further enables a person-centred approach.

Moreover, the research has shown there are limitations to producing a common language. For example, feedback since completion of Version 2 of the taxonomy suggests there are some omissions, namely the concepts of mastery, resilience and agency. All three appeared in

earlier iterations of the principles and features, but were not consistently prevalent in the original data generated by this research to ultimately warrant inclusion. This demonstrates the subjective nature of the task.

While this research has aimed to be inclusive of all types of arts intervention, arts therapy and arts activity, the identity and experience of the participants, along with the focus of the case study, has potentially over-emphasised the arts as therapy or the arts as a treatment within the framing of the taxonomy. Moreover, in a framework that claims to be transferable between arts forms, the data gathered and analysed throughout this research have focussed most heavily on music. Furthermore, even within music as an art form, the data have possibly over-represented therapeutic music interventions, and not adequately accorded the importance due to the rich variety of available community music activities.

Indeed, a related distinction requiring more thorough exploration within the taxonomy is how the arts can best meet the individual needs of people at different stages of dementia, for example those living independently in the community, and those living in residential care. Certain principles and features, such as learning, may be more appropriate for those with early stage dementia, though these potentially different programming requirements need further research within the context of the taxonomy. Collectively, these circumstances may limit the generalisability of the taxonomy.

Consequently, the taxonomy presented here represents just one interpretation of arts interventions for people with dementia. It is an initial attempt to give a comprehensive view of the field in an effort to make a contribution to the growing evidence base. The taxonomy remains modest in its claims and self-aware of its challenges. Accordingly, it welcomes scrutiny, consideration and improvements by interested parties wishing to modify, adapt and develop the taxonomy based on further research.

Conclusion

The taxonomy of arts interventions reported in this paper, comprised of twelve dimensions, is a foundational model for describing, explaining, communicating and simplifying the arts and dementia. It has attempted to balance generalisability while allowing for interpretation and personalisation of the arts. The taxonomy will require further development based on future research. Accepting its limitations, the taxonomy represents novel and innovative work that hopes to make a meaningful contribution to arts and dementia research, theory and practice.

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Captions for Tables and Figures

Table 1: Descriptions of each taxonomy dimension

Table 2: Principle descriptions and lay summaries

Figure 1: A taxonomy of arts interventions for people with dementia

Figure 2: A CMO example of a music intervention

Tables

Table 1: Descriptions of each taxonomy dimension

Taxonomy dimension	Dimension description
Art form	*The particular arts modality or discipline of an arts intervention. More than one of these art forms could be present in an arts intervention. Examples include: music, dance, drama, visual art, literature, digital, photography, sculpture.*
Artistic elements	*The particular properties of arts practice that enable interventions to be impactful for people with dementia. Examples include: rhythm, rhyme, sound, sensory, story, texture, harmony, colour.*
Artistic focus	*This dimension maps the arts and dementia field and its different methods of engagement: art **with** people with dementia eg. interventions; art **by** people with dementia eg. performance or exhibition; art **for** people with dementia eg. dementia friendly film screening; art **about** people with dementia eg. advocacy arts and story sharing.*
Artistic materials	*Artistic supplies and resources that can be used in arts interventions for people with dementia. Examples include: paint, bark, shells, instruments, beads, scarves, ribbons, feathers.*
Arts activity	*Examples of arts activities that relate to individual art forms: singing (music), movement (dance), puppetry (drama), painting (visual art), poetry (literature), creative app (digital), portraiture (photography), clay modelling (sculpture).*
Arts approaches	*The multiple applications and approaches of the arts for people with dementia, and the ways in which the arts can be used: community arts, participatory arts, therapeutic arts, recreational arts, performance arts, arts therapy, arts during care giving, arts at end of life, appreciative arts.*
Arts facilitators	*The range of individuals with equally valid knowledge and expertise who might facilitate, co-produce or co-create an arts intervention. Examples include: therapist, artist, practitioner,*

	carer, care staff, activity co-ordinator, educator, cultural staff, person with dementia.
Arts location	*Potential places and spaces where an arts intervention could occur, if supported by an appropriate ambience. Examples include: care home, personal home, hospital, school, theatre, cinema, museum, library, art gallery, outdoors/garden.*
Competencies	*Skills and training which might be relevant to the delivery of a quality arts intervention. Examples include: flexibility, empathy, courage, awareness, reflection, practicality, intuition and tacit knowledge, dementia care training, arts training, business acumen, evaluation, registration and conduct for accredited professions.*
Complementary arts	*Creative activities that have artistic properties and can result in an arts intervention by using principles and artistic elements. Examples include: gardening, clowning, cooking, magic, crafts, carpentry, knitting, baking.*
Intervention context	*Contextual pairings and continuums related to arts practice that might be present in an arts intervention. Examples include: process and product, active and receptive arts, recorded and live arts, new and familiar cultural arts, reminiscence and in the moment, lingual and non-lingual, institutional and community, individual and group arts, stage of dementia.*
Principles	*Uses prominent features to define and describe the underpinning component parts that characterise arts interventions for people with dementia. Principles are elements present in, or enabled by, arts interventions and identify how they operate and produce their effects: Connection, Engagement, Expression, Humanity, Involvement, Possibility, Selfhood, Transformation.*

Table 2: Principle descriptions and lay summaries

Principle description	Principle lay summary
Connection: *Arts interventions can facilitate connection to the self and others through bonding, morale and reminiscence, enabling social interaction and relationship building.*	The arts can enable social interaction.
Engagement: *Arts interventions engage and stimulate, possibly using improvisation or play, and give participants an opportunity to take part in a live activity.*	The arts can be lively and fun.
Expression: *Arts interventions allow participants to share and frame their emotions, sometimes without language, generating enjoyment, discussion or challenge to make meaning.*	The arts can help people share and process their emotions.
Humanity: *Arts interventions can offer respite by validating, regulating or stabilising mood, and enabling a process of trust, relaxation and hope.*	The arts can be relaxing and supportive.
Involvement: *Arts interventions involve a range of participants, are welcoming, mutual and equalising, and include limitless activities that can embed the arts into everyday life.*	The arts can include and welcome people.
Possibility: *Arts interventions can allow failure free achievement and the use or development of skills, encouraging curiosity in different places, and providing a focus on enrichment and potential.*	The arts can give people new experiences.
Selfhood: *Arts interventions can generate purpose and feelings of independence, identity and empowerment, while being personalised and accessible to individual needs and choices.*	The arts can create a sense of identity.
Transformation: *Arts interventions might transform participants using creativity, imagination and flow – transporting them to a different time, emotional space or into the moment.*	The arts can transform people and change how they feel.

Figures

**Figure 1: A taxonomy of arts interventions for people with dementia**
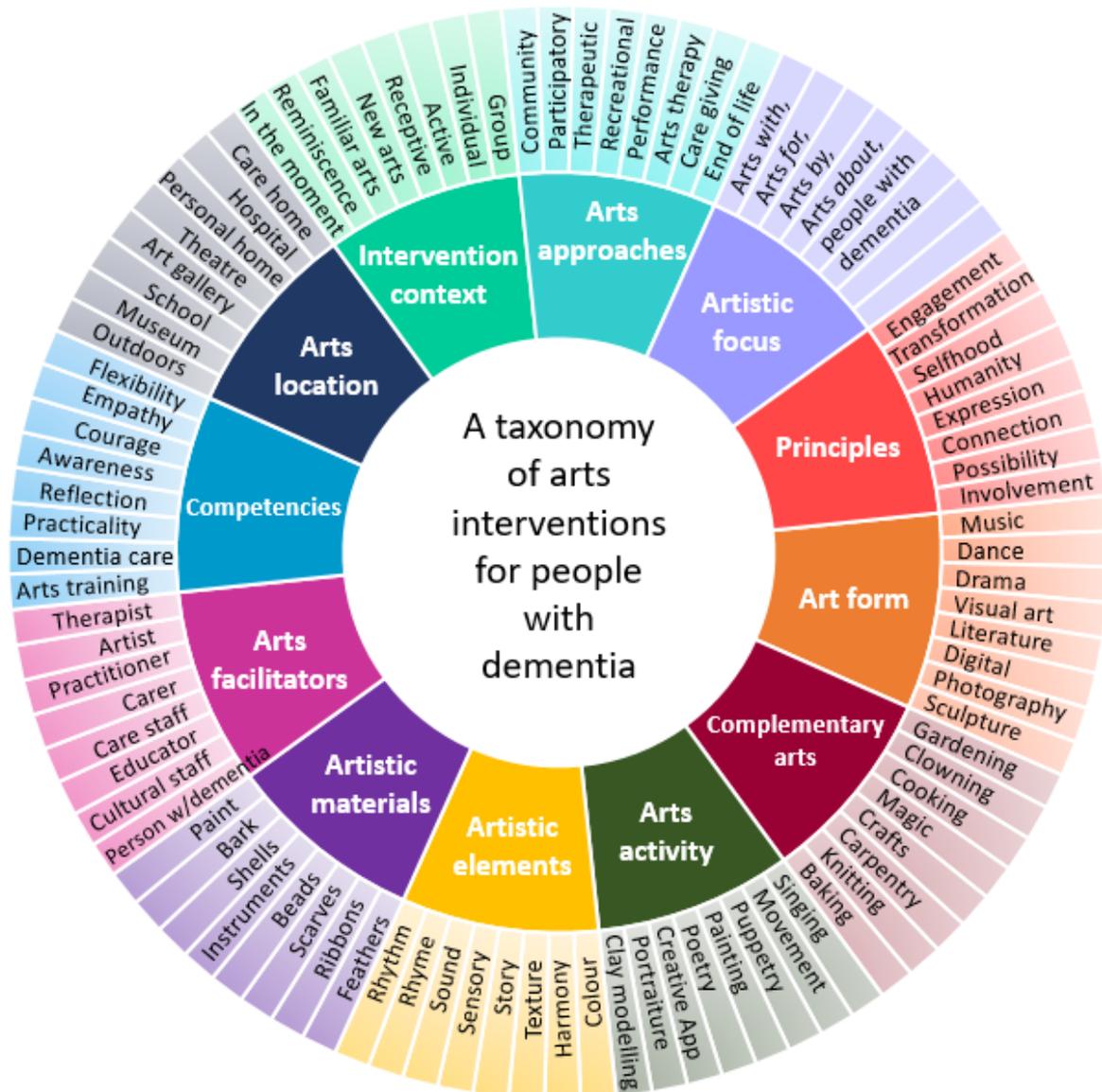
Figure 2: A CMO example of a music intervention
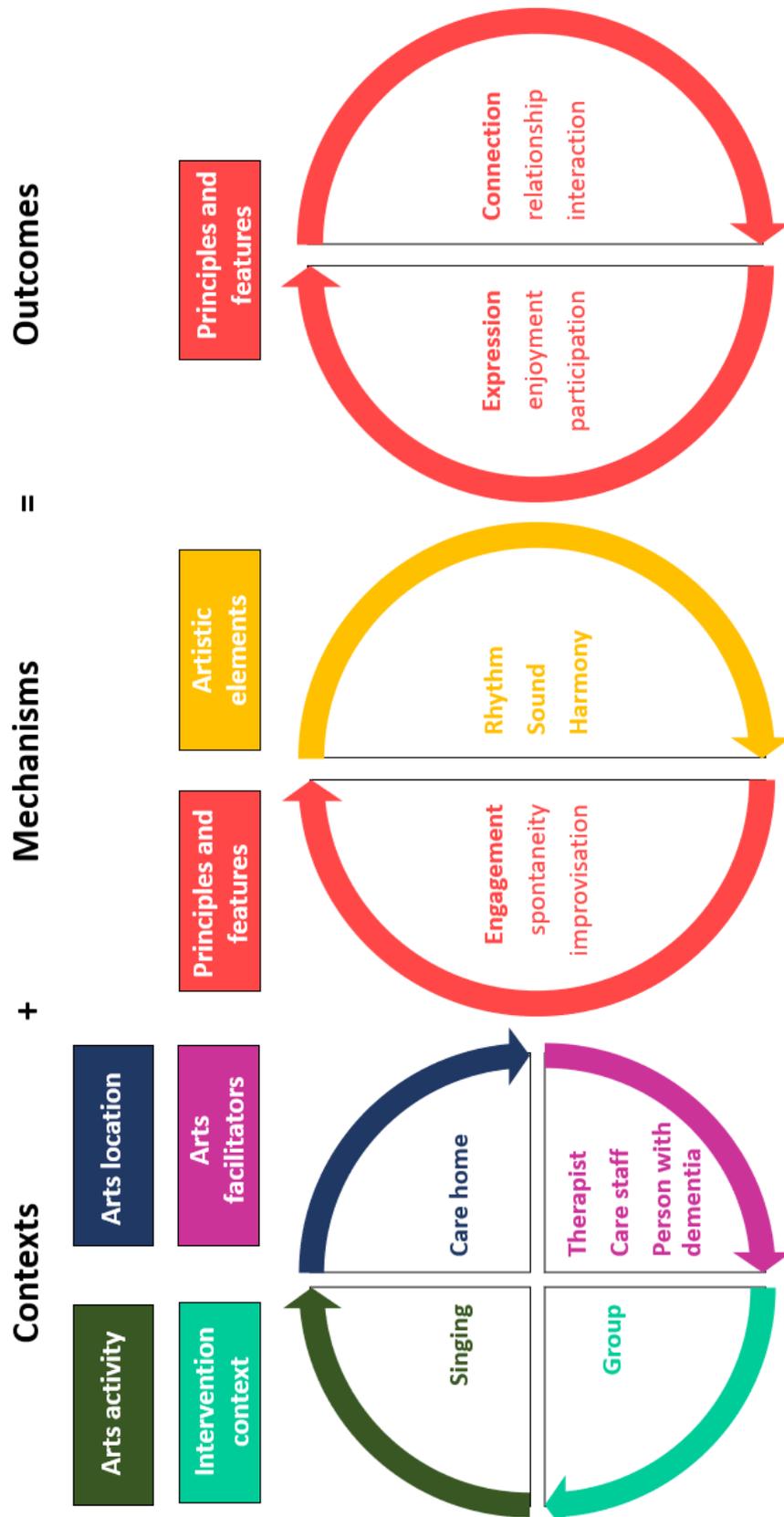
Appendices (Supplementary material)

Appendix 1: Principles and features of arts interventions for people with dementia
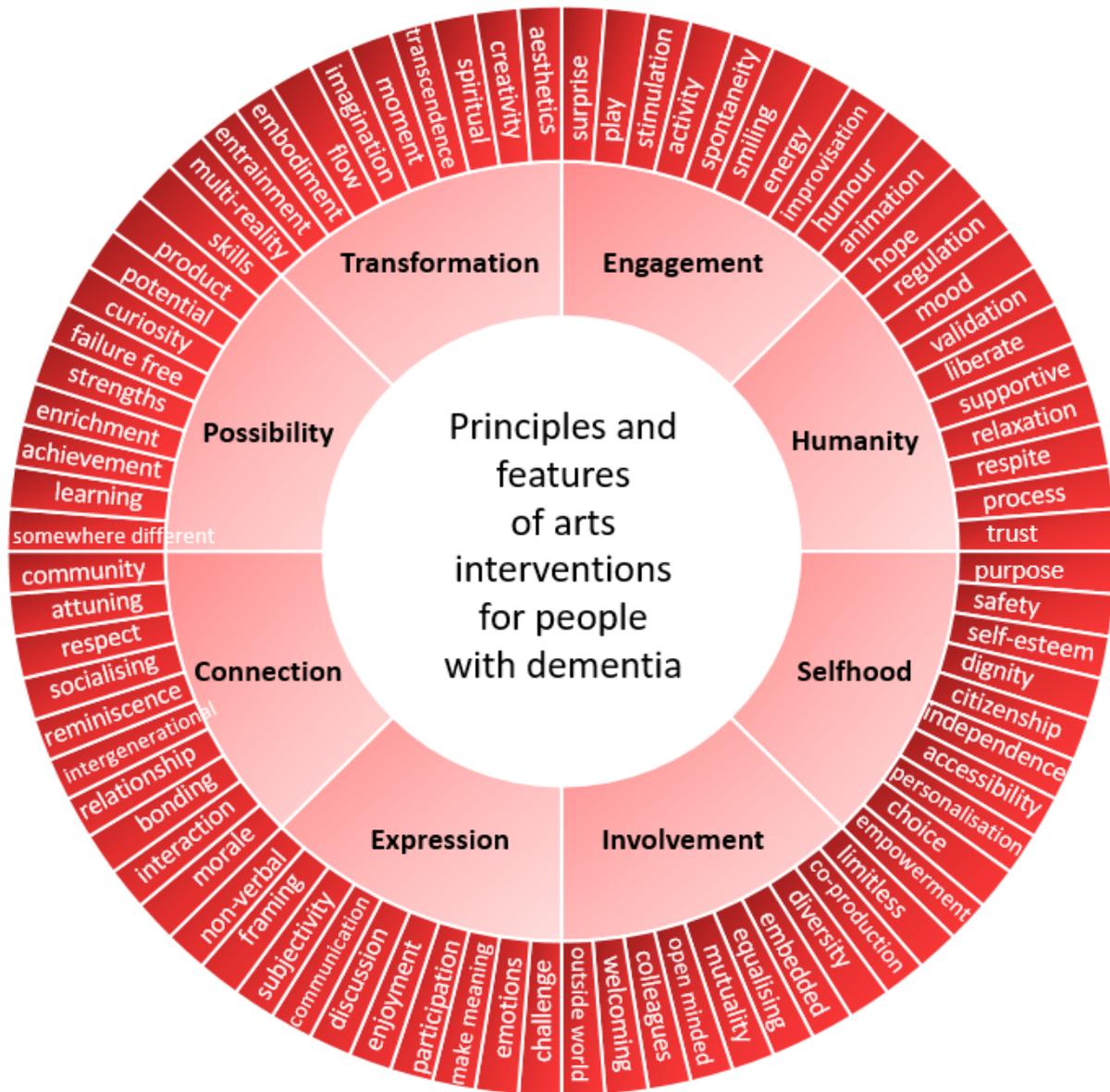
Appendix 2: The taxonomy dimensions defined as contexts, mechanisms and outcomes
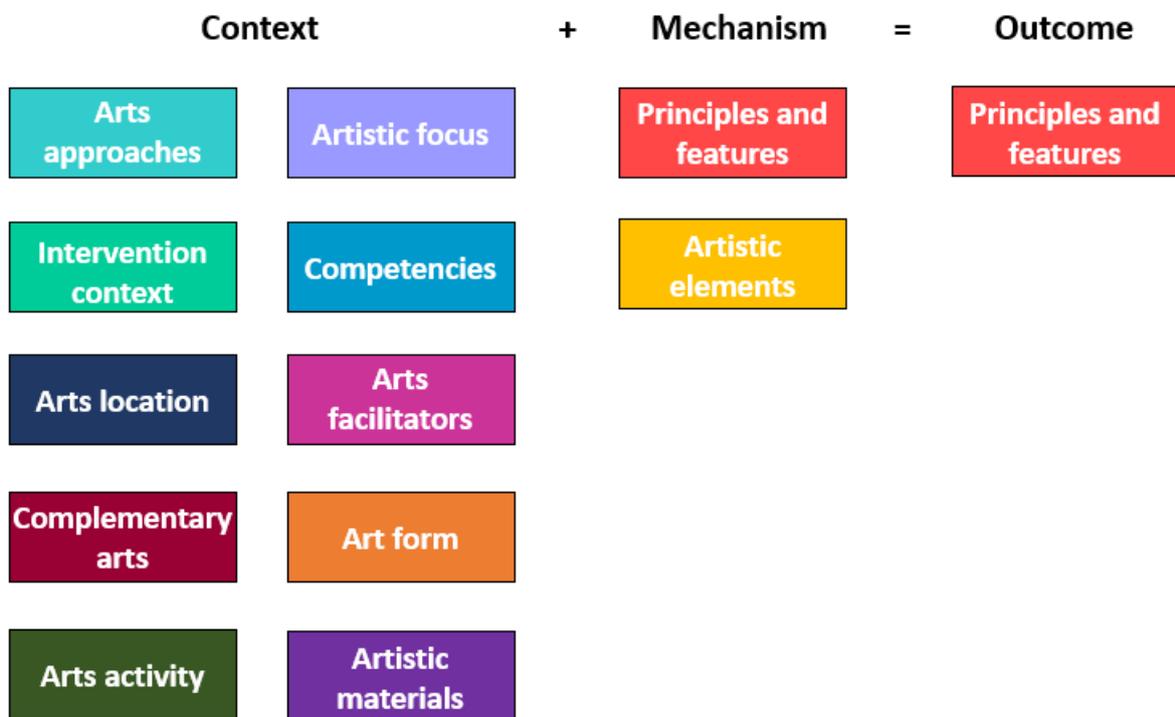
Appendix 3: A CMO example of an art gallery intervention
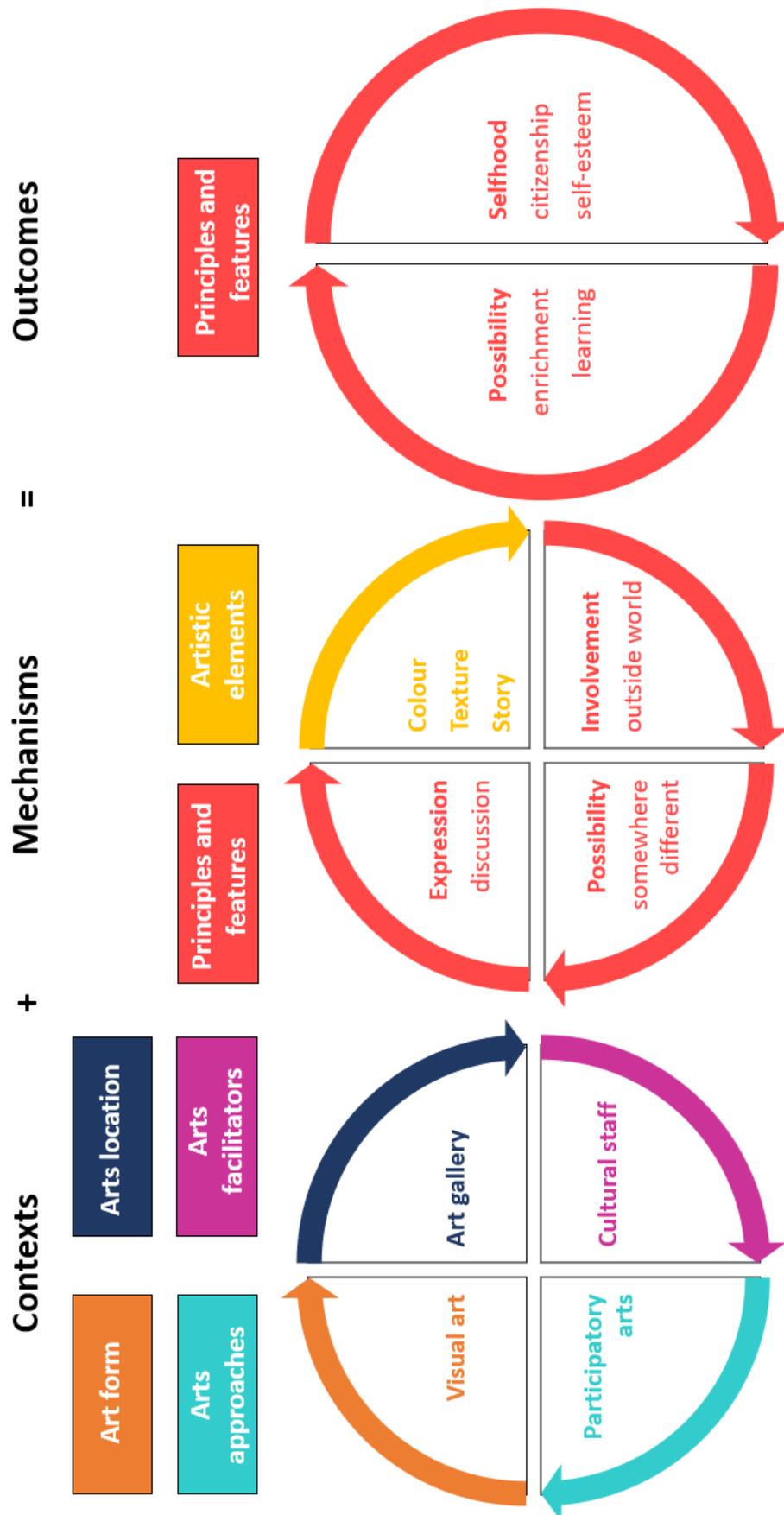
Appendix 4: Illustrating that the taxonomy dimensions satisfy the TIDieR requirements (Campbell et al., 2018; Hoffman et al., 2014)

TIDieR and TIDieR-PHP requirement: details of the intervention	Corresponding taxonomy dimension
Brief name	Artistic focus Art form Complementary arts
Mechanisms or rationale	Principles Artistic elements
Theory or goal	Principles Artistic elements
Materials or training	Artistic materials Competencies
Activity or process	Arts activity Principles
Provider	Arts facilitators
Delivery mode	Intervention context Arts approaches
Location	Arts location

Appendix 5: A simplified version of the taxonomy for dissemination

A framework to define and describe the theory and practice of arts activities for people with dementia

Principles that characterise arts activities for people with dementia:

Selfhood
The arts can create a sense of identity

Expression
The arts can be help people share and process their emotions

Involvement
The arts can include and welcome people

Connection
The arts can enable social interaction

Transformation
The arts can transform people and change how they feel

Humanity
The arts can be supportive and relaxing

Possibility
The arts can give people new experiences

Engagement
The arts can be lively and fun

Other dimensions that describe arts activities for people with dementia:

Arts activity Eg. singing, movement, puppetry, painting, poetry, creative digital apps, portraiture, clay modelling

Artistic materials Eg. paint, bark, shells, instruments, beads, scarves, ribbons, feathers

Complementary arts Eg. gardening, clowning, cooking, magic, crafts, carpentry, knitting, baking

Artistic elements Eg. rhythm, rhyme, sound, sensory, story, texture, harmony, colour

Artistic focus Eg. arts with, arts by, arts for, arts about people with dementia

Art form Eg. music, dance, drama, visual art, literature, digital, photography, sculpture

Arts facilitators Eg. therapist, artist, practitioner, carer, care staff, activity coordinator, educator, cultural staff, person with dementia

Arts location Eg. care home, personal home, hospital, school, theatre, cinema, museum, library art gallery, outdoors/garden

Competencies Eg. flexibility, empathy, courage, awareness, reflection, practicality, dementia care training, arts training

Arts approaches Eg. community, participatory, therapeutic, recreational, performance, arts therapy, care giving, end of life

Activity Context Eg. group or individual, active or receptive, recorded or live, new or familiar cultural arts, reminiscence or in the moment