

LAUGH: playful objects in advanced dementia care

Cathy Treadaway, who led the LAUGH project, is professor of creative practice in the Cardiff School of Art and Design at Cardiff Metropolitan University.

For more information on the project, go to www.laughproject.info or email ctreadaway@cardiffmet.ac.uk

For three years **Cathy Treadaway** led an international research team to develop highly personalised, playful objects for people with advanced dementia. She shows how residents and care staff have found that the objects give pleasure, comfort, sensory stimulation and a sense of connection

People living with advanced dementia in residential care can become socially isolated and deeply depressed as a result of the condition's impact on memory, behaviour and verbal communication. And, for family and friends, it can be distressing to visit a loved one who no longer recognises them or is unable to

engage in conversation as they once did.

The grief experienced by family and friends for the person they love – and feel they are losing or have lost – may result in less frequent visits as the dementia progresses. Social isolation, boredom and frustration are then added to the many other distressing symptoms (Kenning & Treadaway 2017).

New ways to ameliorate social isolation and restore and retain loving connections are urgently needed for the increasing numbers of people who reach the later stages of the disease (Livingston *et al* 2017). One approach that has been found to help is the use of playful objects that focus on “in the moment” sensory experience and stimulate connections between people living with dementia, their families and carers – and to the world around them (Treadaway *et al* 2016).

Over the last three years an international team of academic researchers, led by myself, have been developing highly personalised objects to encourage this kind of playful interaction with people living with dementia. The aim of the recently completed LAUGH project has been to understand the best ways to design objects that can give pleasure and comfort to people in the advanced stages and to provide guidance for designers working in the sector.

Participatory research

A participatory approach to the research enabled us to get to grips with the intricacies of designing objects for this group. A series of workshops held in the first two years of the project was attended by dementia experts, including care staff, family members, health professionals, psychologists and technologists. These workshops stimulated initial design concepts and gave us essential knowledge about the condition and dementia care practice.

The Cardiff-based design team used this information to create prototype designs that were exhibited during March and April at events in Cardiff, London and Sydney. Seven highly personalised designs have been developed using a “Compassionate Design” approach, in which loving kindness for the person with dementia is placed at the heart of the design process. The three key themes of personalisation, sensory stimulation



A care worker shows a resident one of the playful objects

and “connecting” underpinned the process, ensuring that concepts were appropriate and maintained the dignity of the person for whom they were designed (Treadaway *et al* 2018).

Care staff have been key to the success of the project, not just in advising the team but also in encouraging people to use the objects in daily care and helping to evaluate them. Who best to really appreciate the difference these kinds of objects can make than those who interact with a person every day and attend to their intimate personal needs? The LAUGH research team worked closely with two Pobl Gwalia Care and Support residential care homes in South Wales, Llys y Seren and Dan y Bryn. Residents, care staff and families contributed to the design research by providing “portrait” information (life history and personal preferences) to guide design development. The result is a collection of highly personalised prototype playful objects.

Testing and feedback

When developing new products, designers routinely undertake a period of user testing, obtaining feedback from people about their designs through interviews and questionnaires. Since this was unsuitable for people with advanced dementia, the LAUGH evaluation captured responses to the objects through deep observation (on-site in the care homes and later at the university using video) to look for non-verbal cues and emotional body language. In addition, responses from care staff gave important insights into how the designs performed and their potential use and role in daily dementia care.

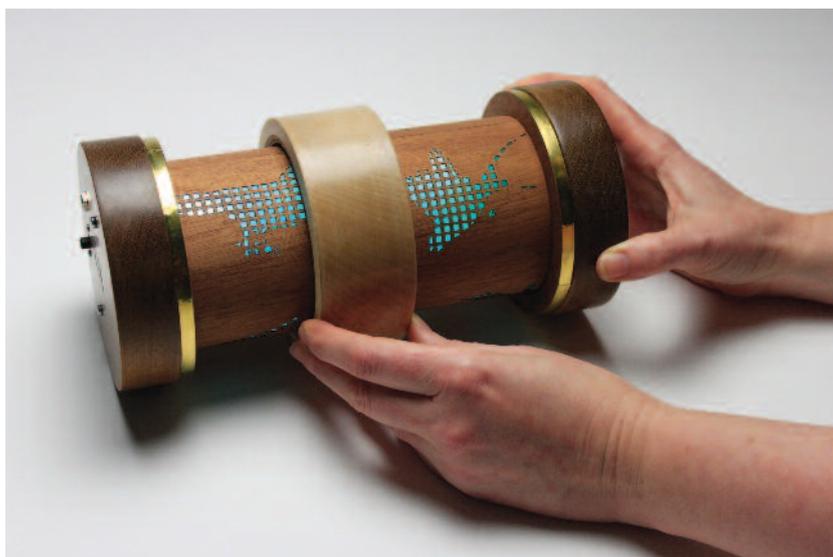
The evaluation contains some heart-warming stories about how the bespoke playful objects positively affected the people they were designed for and helped reconnect them to others and the world around them. There were instances of profound sensory reawakening, moments of sheer joy and evidence of deep sensory pleasure.

Care staff and managers have been enthusiastic about their involvement in the research and the impact it has had. LAUGH has inspired new ideas for their care practice and the objects themselves have helped to trigger conversation and playful encounters throughout the day. One care manager said, “It’s far exceeded my expectation,” while a specialist dementia care professional admitted positively, “I couldn’t understand how it was going to work... but seeing is believing I think, isn’t it?”

A member of care staff noted that “you can sit and talk with somebody [with advanced dementia] but sometimes words are not enough,” which is especially true when a person has become so withdrawn that they are unable to communicate. A comforting playful object, on the other hand, can provide a focus for conversation and encourage nonverbal interaction.

A comforting Hug

One particular LAUGH object that was found to have a significant impact on wellbeing was “Hug”, made for a lady called Thelma who was largely



bed-bound, profoundly withdrawn and experiencing frequent falls. She had been a popular member of the care home community, but because of her declining health she had lost her sparkle and become increasingly detached. Care staff suggested to the design team that what she needed most of all was a hug.

In response to this request and armed with information from the family and staff about her personal preferences and life history, the team developed a soft cushion-like wearable “baby”, made from soft furry fleece. Hug contains electronics simulating a beating heart and plays Thelma’s favourite music – a selection of Vera Lynn songs.

When Thelma received Hug, she immediately responded positively, holding it close, relaxing and resting her head on it to listen to the music. Over a period of three months there was a marked improvement in her health. She began to eat, speak and socialise again and, most significant of all, she had no further falls. One of the care staff commented:

She’s come alive so much, whereas before she was sitting in her chair all day, not interacting with anyone, just laying there and then going to bed for most of the day. She’s like a different lady now... Hug changes her. Her face has changed and she’s so talkative lately. This is like a miracle in a way.

The need to give as well as receive affection is a deep and basic human instinct (Fredrickson 2014). The weighted arms of Hug produce the sensation of a human embrace and the soft form of the body shape is designed to trigger emotional memories of nursing a small child. In Thelma’s case, this also resulted in interaction with other residents and professional carers who took an interest in her “baby”.

Embedded electronics meant that the device could be highly personalised. Vera Lynn’s songs seemed to give her a sense of serenity and comfort as well as being signifiers that expressed her lived experience and personal history, helping retain her personhood and dignity. Hug’s beating heart ➤

The LUMA interactive object plays birdsong and changes colour

Acknowledgements

The LAUGH team would like to acknowledge funding from the Arts and Humanities Research Council (grant reference AH/M005607/1) and wishes to thank the staff and residents and their families at the Pobl Gwalia Care and Support Llys y Seren and Dan y Bryn care homes for their participation in the research. LAUGH was a collaboration between researchers at Cardiff Metropolitan University, Coventry University and the University of Technology Sydney. Pobl Gwalia Care and Support, one of the major providers of social care in south-west Wales, were partners in the research, which was guided by an advisory group with representation from leading charities and stakeholder groups including Age Cymru, Alzheimer’s Society, My Home Life Cymru, Dementia Positive and the office of the older people’s commissioner for Wales. Participants in the research also included members of the Alzheimer’s Society SURPS group and the DEEP network.

References

- Fredrickson BL (2014) *Love 2.0: Creating Happiness and Health in Moments of Connection*. New York: Penguin Group.
- Kenning G, Treadaway C (2017) Designing for Dementia: Iterative Grief and Transitional Objects. *Design Issues* 34(1) 42-53.
- Linden DJ (2015) *Touch: the science of hand, heart, and mind*. London: Penguin Books.
- Livingston G, Sommerlad A, Orgeta V, Costafreda SG et al (2017) Dementia prevention, intervention, and care. *Lancet* 390(10113) 2673-2734.
- Tanner L (2017) *Embracing Touch in Dementia Care*. London: Jessica Kingsley.
- Treadaway C, Fennell J, Prytherch D, Kenning G et al (2018) *Compassionate Design: How to Design for Advanced Dementia*. Cardiff: Cardiff Metropolitan University.
- Treadaway C, Prytherch D, Kenning G, Fennell J (2016) In the moment: designing for late stage dementia. *Proceedings of DRS2016* 3 1442-1457.

► was designed to stimulate emotional memories of physical closeness with another person, something that is often lacking when someone is in residential care, especially if they have few visitors. As one of Thelma's professional carers said, "That's a human basic need, isn't it, to be loved and touched and have that connection?"

Unfortunately, physical human contact, hugs and gestures of affection, so beneficial to wellbeing, are often considered inappropriate or risky in the context of health care (Tanner 2017). As one staff member put it, "We can't step over the boundaries to hug, cuddle." Hug is not designed to replace human contact but to invite more, serving as a mediating object that draws attention, ignites conversation and encourages nurturing emotions.

The physical sensation of being held close is an expression of being loved and the nurturing activity of nursing a child reaches deep into the human psyche, fulfilling a lifelong human need to be touched, connected and cherished (Linden 2015). This need for physical touch and connection can be fulfilled in a similar way by keeping a pet.

Consequently, the Hug design was adapted for another person whose favourite animal had been a white cat. In this object, called Cat, the beating heart was replaced by electronics generating a purring vibration, while a spontaneous "meow" sound was substituted for Vera Lynn and activated, unprompted, whenever stroking ceased. It served as a reminder that Cat was still there and required attention. Care staff said that Cat prompted conversation, fun and laughter, not just in the person it was designed for but among other residents too. "It cheers them up, it makes them smile... the cat makes them happy," said one staff member.

Stimulating memories

Care staff also recognised the potential for using objects like Cat to stimulate deeper personal connections between the person living with dementia and visiting family.

One staff member commented, "obviously their family will remember the cat from years ago, won't they? You know... so that will bring memories back for them as well, and their mother."

So the success of the design lies in making the object personal, relevant and significant, to which an understanding of the person's life history and preferences is essential.

Five other bespoke design prototypes were developed during the LAUGH project, namely a retro telephone that plays favourite music, a steering wheel that mimics the haptic sensation of driving a car, a box containing fidget jewellery, a set of Giggle Balls that emit the sound of children's laughter when handled, and LUMA, an interactive object that plays birdsong and changes colour to bring the experience of the outside indoors. Each one is a unique handheld device and most, although not all, contain embedded electronics to produce sound, light or vibration to stimulate the senses.

Care staff explained in the evaluation how the objects were particularly useful at various times during the day to re-direct a resident's attention and defuse potentially difficult situations by changing a person's mood with fun in the moment.

The playful objects increased activity and engagement in a way that delighted staff, one commenting:

It was amazing that he just took to it because ...when you think it wasn't a steering wheel in a car - he was sitting in a wheelchair! And he had that steering wheel and the way he was holding was like as if he was driving. And that was an amazing response... it was amazing, it was really, it made such a difference.

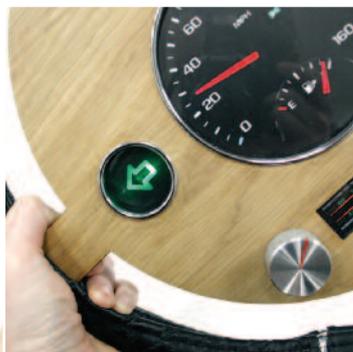
The manager of the care home was impressed too:

He came out in his wheelchair, we just focused on the steering wheel and it was a different [person], it was the [person] that we knew when he first came in.

Job satisfaction among staff also went up as a result of using the objects with residents and there was a feeling that they added something extra to the daily care routine. One said: "I feel as if I've done my job, I can go home with a smile on my face thinking, I've made a resident happy today." One of the managers observed a similar effect:

When the residents are happy and enjoying themselves, then it obviously makes the staff feel good, gives them fulfilment in seeing the residents enjoying [life], because it's harder to support somebody when they're upset, uptight or agitated.

The LAUGH project concluded at the end of April and the team has just received major funding from the Welsh Assembly Government to continue its work and develop more designs for playful products to help in advanced dementia and end of life care. ■



The steering wheel (above) and a set of giggle balls, that emit children's laughter when handled