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NHS at Home: Using Lego Serious Play to capture service narratives & to envision future healthcare products

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Abstract

Lego Serious Play (LSP) is widely accepted as a strategic planning tool by major corporations such as Nokia and Microsoft. The application of LSP as a research methodology is rarely found in social sciences and absent from design research. This work in progress paper demonstrates the effectiveness of LSP as a design research tool; a methodology that has captured the discrete service narratives of community matrons and directed the tenets for the design of a 21st century nursing bag.

NHS at Home is a PhD by practice and based at the Royal College of Art (RCA). The project is sponsored by the Engineering Physical Sciences Research Council (EPSRC) and supported by NHS East Riding of Yorkshire through a dedicated steering group consisting of innovation leads, service improvement managers and community nurses.

Keywords

Lego Serious Play, NHS, Co-design, Community nursing

Introduction

Healthcare services throughout the world are facing unprecedented change driven by rising demand for long-term care, escalating costs and higher patient expectations [1]. The delivery of planned healthcare is migrating away from the traditional hospitals and into patient's homes [2]. New intermediate care structures are emerging to bridge the service gap between hospitals and GP practices. In December 2008 NHS East Riding of Yorkshire introduced neighbourhood care teams (NCTs) to remove the need for patients to travel to a hospital to receive their frequent treatments: managed care, rehabilitation and urgent care. Empirical research has revealed that current nursing bags are outdated and unsafe: 21st century professionals using 20th century kit [3, 4].

Background

In 2000 Fortune magazine and the British Toy Retailers Association declared Lego™ toy of the century. Since the appearance of its interlocking tube brick design in 1958, Lego's appeal as a technological system for the outward expression of creativity has transcended beyond children and acquired new disciples. LSP has established itself with major corporations as a visual linguistic tool to express strategic planning opportunities. LSP has the capacity to harnesses an individual's ability to *'think through their fingers'*

through the use of constructed metaphors and narratives [5, 6]. To date LSP has received little attention from research communities as a viable methodological tool, yet Lego has the potential to ‘express anything’.

Design Research Aims

NHS at Home pioneers design research in a neglected field of healthcare that will increase in significance. To support a paradigm shift, new ways of working and new types of equipment are believed to be necessary to support clinicians working in this challenging and inconsistent healthcare environment. The primary goals of the PhD by practice are to: (i) study how planned treatments are delivered in patient’s homes; (ii) determine the cleanliness of nursing bags; (iii) to capture professional challenges in greater detail; (iv) to co-design a 21st century nursing bag, (v) to validate the effectiveness of a proof of concept demonstrator.

Method

The primary objective of the LSP workshop is to build upon the ethnographical data acquired through fieldwork observations by capturing the discrete narratives of NHS stakeholders and to collectively envision opportunities for service improvements and new product development [7]. The workshop was structured into a series of sequential building activities incorporating both generic LSP exercises and modified tasks (Table 1)

Table 1: LSP Workshop Methodology

Introductory Exercise	A two minute task to build the tallest tower possible. 60 seconds into the task a rule change is delivered. The tower strength is tested when placed horizontal. Models tested to destruction deliberately to demonstrate an emotional connection to their models.
Evaluation of Perceptions	A metaphor questionnaire introduces the concept of metaphors by introducing a series of comparative statements: if the NHS was an automotive brand or type of bag what would it be. Captures stakeholder’s perceptions of present service quality.
Metaphor Exercise	Participants asked to build a representation of any metaphor using a limited number of bricks. A second stage requires the models to be modified in a positive way to demonstrate that positive outcomes can be achieved when empowered to shape the future.
‘Day in the Life’ Models	Participants requested to build an individual model that reflects the daily challenges and pressures faced in performing their professional duties. A 15 minute task with unlimited access to bricks.
Envisioning an Aspirational Service Architecture	The collective building of an aspirational service model: organisation and operational. Extended build time of 30 minutes, unlimited brick access.
Envisioning an Aspirational Support Technologies	Task extended to include the building of aspirational support technologies: products & vehicles.
Determining Value Propositions	Group collectively identifies 3 words that encapsulates the perceived characteristics of a world-class NHS at Home service.

Results

The efficacy of the data was enhanced through triangulation. The workshop was attended by the Leads from three Neighbourhood Care Team: Bridlington, Beverley and Goole, as well as the Trust's Service Improvement Manager and Consultant Nurse for Older People (n=5).

Day in the Life Models

Analysis of the model's architecture exposed reoccurring metaphorical themes. The repetition of imagery such as obstacles courses, a Berlin wall and barriers all inhibited their professional performance. Models frequently depicted heavily loaded people and vehicles. Vehicle models in particular were built haphazardly inferring inconsistency, improvisation and inappropriateness of design rather than a coherently designed service (Figure 1). The use of visual recording equipment enabled a participant's oral descriptions of their models to be captured with 100% accuracy.



Figure 1: Model depicting limited space and unsuitable vehicles

'This is how I feel. I am working in a dinosaur society. I feel like a carthorse sometimes. I have put myself springing out, you know, because that's what I feel. I need help to be in patient's homes. When I do get into a patient's home I feel that I am spinning round I feel the only place I can really do my job properly is on the roof because its really, really restricted. This is how I feel. I feel angry about the situation. I've only got a two-seater KA and I need a tank! We should have better cars shouldn't we really but that's how I feel.

Video recording also captured conversations in the gaps in between exercises. During a breakout session an impromptu group discussion explored the comparative differences

and deficiencies of service experiences in different settings and identified alternative solutions found within analogous systems:

P1: We need a core set of tools.

P2: Designed to be transported in something. So we always have a core set of things. I know we have a core set of bits and pieces but it's not a standard set of tools. We were set up with nothing, we have acquired things on the way And have we got the right things? And a lot of the time, no we haven't!

P4: Then you look at the AA. When the AA turn up in a van, it's all lined out, what you need, where it is. Where as ours it's all chucked in the back seat. It isn't very professional is it?

Envisioning Aspirational Models

In a final task the group collectively envisioned an aspirational operational and service delivery architecture. Once again, consistency of delivery and resources proved to be a reoccurring theme with each locality built identically to each other. Representations of vehicles communicated a desired for specificity and consistency. This was in stark contrast to earlier built vehicles that were adaptations of prebuilt vehicle forms. These desirable vehicles were carefully considered and uniformed in design, brick type and colour. One aspirational Lego model highlighted a need for a 'product' that provided a professional, organized and a uniformed work environment. This model directed the design tenets for a future nursing bag (Figure 2).

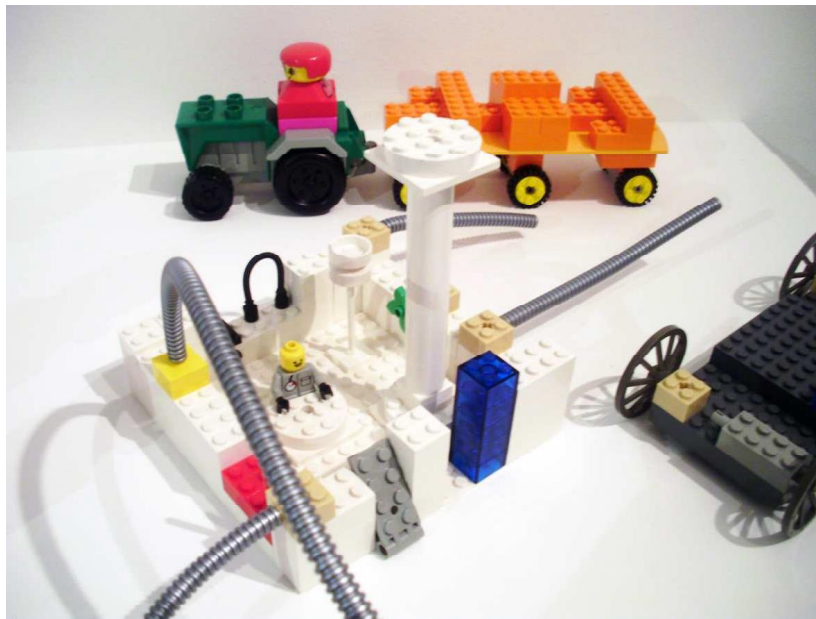


Figure 2: Representation of a

When presenting her model to the group she articulated,

'The actual pod I have done in white. I have done it white just to bring over the thought that we need a clean feel where we go anywhere. Whether we do our work in hospital or go out to patient's homes. Now this pod can be a pod inside

a hospital or a clinic or can be in our bags or our environment we are trying to get in our patient's homes. And this will probably be our work environment. That would come up as a table so we don't have to go on our knees. We can stand up and work around it. So it's very much mobile. You know, everything is in its place. So, so we open it up and it's all uniformed. So that's my idea.'

Before the days proceedings were brought to a close the workshop participants were asked to identify three words that communicated the desirable attributes of a world-class NHS at Home service. Collectively the group agreed that the most appropriate words were consistency, quality and teamwork.

Discussion

Lego Serious Play has demonstrated itself to be an effective tool for capturing detailed service narratives of participants. The inclusive and democratic nature of the process proved to be a perfect tool to initiate a co-design programme. The process captured the delivery challenges posed by existing systems and equipment, as well collectively exploring new service architectures and product development opportunities to support the delivery of a world-class patient experience in an inconsistent healthcare setting. The value propositions that have emerged from these aspirational models have shaped the design tenets for a 21st century nursing bag.

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