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## CRITICAL REFLECTION ON PRACTICE DEVELOPMENT

### Learning through play: using evidence to improve child asthma care

Heather Henry

Brightness Management Limited

Email: [heather.henry@brightnessmanagement.org.uk](mailto:heather.henry@brightnessmanagement.org.uk)

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#### Abstract

*Background:* Poor control and concordance with treatment in children's asthma remain a priority, despite advances in treatment. Play and storytelling are often neglected as ways of improving health literacy in children with asthma and their families.

*Aims:* The author, a nurse entrepreneur, tests the idea of seeing citizens and communities as assets, who can cascade asthma knowledge in fun ways, to complement the dominant service-led and needs-focused paradigms. This reflection explores the evidence base for how children learn through play and how it accords with her own nursing instinct.

*Conclusion:* Children, their families and communities can learn, recall and share asthma knowledge learned through play. Storytelling can foster co-operative behaviours and encourage children to take responsibility. Asthma in children is often an emotive subject, drawing citizens and organisations towards health professionals to offer themselves as assets: people with skills and strengths to share.

*Implications for practice:*

- The incorporation of play-based asthma education in the community is intuitive but would represent a cultural change that could be challenging. Simple approaches, such as telling a well-known fairytale, appear more acceptable than more complex approaches such as incorporating play into group consultations or 'asthma parties'
- Sole nurse entrepreneurs can face challenges in securing funding to test innovations that lack impact measures: a 'Catch 22' situation

**Keywords:** Asthma, play, storytelling, asset-based, health literacy, concordance

My focus as nurse entrepreneur is to test and develop innovative approaches to tackle health inequalities via practice development. I am currently finding ways to improve health literacy and concordance for children aged 4-11 years with asthma, their families and whole communities, particularly in low-income communities.

### The problem

My experience as a former general practice nurse in inner-city Manchester was that families often failed to respond to invitations for routine reviews or did not understand the importance of regular preventer medication, with the result that children ended up with acute exacerbations. Twenty years on, the National Review of Asthma Deaths (Royal College of Physicians, 2014) confirmed that health literacy and improving concordance with treatment remain a priority.

### The innovation

I observed that, during outpatient consultations, the focus was on assessment, diagnosis and person-centred care planning, involving clinicians and family members. However, learning through play was absent.

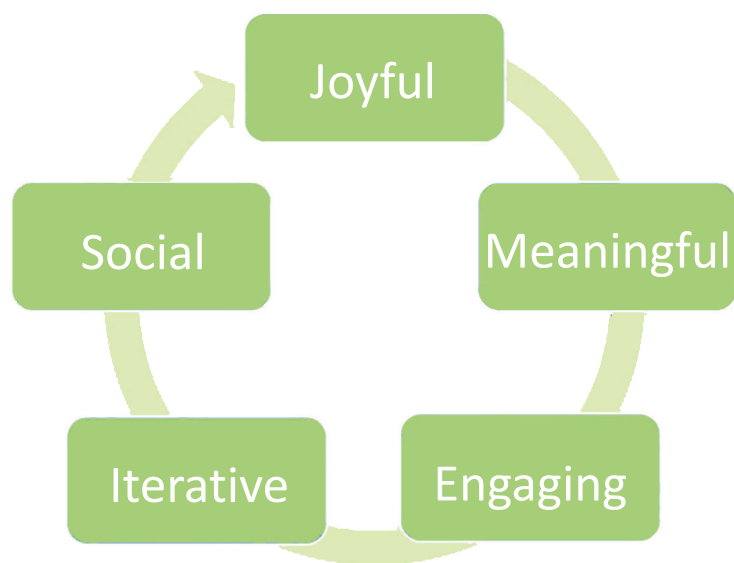
During an NHS-funded project looking at the feasibility of group consultations for children with asthma, I started out by hosting 'asthma parties', involving songs, stories, games and crafts. A typical example is a puppet show of the *Three Little Pigs* story; in my version the big bad wolf cannot blow down the house of straw because he has asthma. The children must choose which inhaler to use and show the puppet wolf how to use his inhaler and spacer.

Later I built on this idea by giving the tools I employ in the parties to people in the community, such as parent groups, teachers, Brownies leaders and librarians, to use independently. This is essentially an asset-based approach, with communities working in equal partnership with nurses, using their complementary strengths and skills. My playful approach was instinctive, but how did I know it was right?

### The evidence around play

In a review of the evidence for learning through play, Zosh et al. (2017) talk about five conditions for optimal learning through play. These are shown in Figure 1 and explored on the following page.

Figure 1: Five conditions for optimal learning through play



Adapted from Zosh et al, 2017

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### **1. Joyful**

Joy increases the dopamine in the brain's reward centre and is linked to better memory, motivation, attention, creativity and a shift in thinking. So any asthma activity should aim to bring a child some joy.

### **2. Meaningful**

New information is assimilated better and is remembered for longer when it is connected to and expands on meaningful ideas that children already understand. By using a familiar context or story, such as *Three Little Pigs*, we can build in their asthma knowledge. So for example, children know that the wolf can blow down a house of straw, but will recognise that he can't if he is coughing. The children learn that the blue inhaler helps his cough by relaxing the air passages and he succeeds. This is meaningful learning that connects to something familiar.

### **3. Engaging**

Children learn best when they have an active role in solving a problem rather than being explicitly instructed. One way to do this is to set a creative writing or thinking task where the children have to research asthma triggers (or 'Wheeze Monsters') using recommended sites on the internet. They then devise fabulous, inventive and clinically accurate ways for my character Captain Fearless to defeat those Wheeze Monsters. This requires active investigation and imagination.

### **4. Iterative**

Iteration in play is about trying out new possibilities, revising hypotheses, within a safe space to experiment without risk. For example, children are invited to make their own stethoscope out of a cardboard or plastic tube with a funnel at the end, balloons for the diaphragm of the stethoscope, and some strong tape. Children try out various ways to make a stethoscope and listen to each other's heartbeat and breathing. Then they do some star jumps and see what happens to their breathing and heart rate. Finally they are asked what they might hear if the air passage is narrow, and relate a wheeze to something like a whistle.

### **5. Social**

Social interaction allows children to communicate ideas, learn to enjoy being with others and develop understanding. Social play helps mould the brain so it copes with challenges later in life and helps children detect the mental state of others. So parties, group consultations and community events that encourage children to interact, such as building a model Wheeze Monster together out of scraps, will help to boost understanding.

### **The evidence around storytelling**

A central part of my approach to play is storytelling. In the 1980s Dorothy Heathcote worked for many years at the University of Newcastle to develop [Mantle of the Expert](#), an educational approach that uses imaginary contexts to general purposeful and engaging activities for learning. Children become a 'team' to tackle an assignment – in my case, how to help the Big Bad Wolf blow down the piggies' houses. As well as being a more engaging way to learn, this is about children entering a fiction where they take responsibility and know that what they do matters to somebody other than themselves.

Storytelling piqued my interest, as nurses and midwives recommend its benefits to parents in terms of language and learning in early years, but don't necessarily consider it within our nursing interventions later in childhood. Hamilton and Weiss (2005) explain that stories are the way that, from birth, humans organise, store and remember information. So, for me to use stories to help children remember and make sense of asthma seemed logical.

From a neurobiological perspective, Zak (2014) reports that character- and emotion-driven storytelling can aid the release of oxytocin which can motivate co-operative behaviours in others.

## Feedback

By harnessing storytelling and other forms of play I noticed a difference: children's attention and their recollection of asthma knowledge improved. If I return to a school six months later and ask a child at random, they can easily recall how a preventer inhaler helped calm the lungs of the wolf. In one video sent to me via a mother, her eight-year-old girl recalls how she had learned from me to help a fellow child in her school with asthma *'so he won't get poorly and sick, even though he's been mean to me'*. Another mother of a four-year-old boy said *'My son.. won't stop talking about it. He wants his own puppets so he can tell the story'*.

As a so-called nursing maverick, I've found that feedback from fellow primary and community nurses has ranged from incredulous to curious to very supportive. Four general practices across Greater Manchester are tester sites for innovations. A closed Facebook group for general practice nurses has proved to be an excellent sounding board. I was concerned about how asthma specialist nurses might react, but they have become my closest allies and have often been right beside me to help test out ideas.

## The challenge of innovating

One of the challenges of innovating, especially as a sole entrepreneur, is finding investment to build an evidence base and demonstrate impact. My reflections are that schools, with a background in educational theory, immediately see the benefit but have little money to invest. Health partners rarely invest before impact is demonstrated. Early adopters in general practice are time-poor because of levels of patient demand, so little measurement of impact has been possible. This has led me to simplify my approach: to teach practice nurses, practice managers and GPs in just one hour about how to share my asthmatic Big Bad Wolf story with 300+ children in a school assembly. I also encourage practice managers to find volunteers in the community – perhaps among their patient population – to tell the story as well.

I have also had opportunities to share what I've learned with international partners, who may have even greater asthma challenges. A meeting with an enthusiastic chief executive of a community interest company in Queensland that delivers family doctor services to an indigenous population with a high asthma prevalence convinced me that there is a market for my innovations overseas. Using my experience as an amateur video blogger, I have therefore completed a series of courses to allow me to design, script, film and edit an online video-based child asthma course, which will be released shortly worldwide. This will be aimed at healthcare professionals in primary and community settings, and local people and schools, supported by a clinician.

I have also decided to volunteer my time in my home town in order to amass the evidence needed. At the time of writing I have secured the support of Sale Town Partnership to develop the concept of Sale becoming the country's first 'child asthma friendly town' using the Alzheimer's Society's concept of [dementia-friendly communities](#) as a model and the maxim that 'it takes a village to raise a child with asthma'. I have started hosting one-hour family sessions to share asthma knowledge through play, and to see if others will join in and help. This is typical of an asset-based approach: starting with nothing but the strengths of the community (Foot and Hopkins, 2010).

In a single month, I've had five storytellers come forward to be trained, three venues offered to me for events and a pop-up shop in the town square, the help of a children's author to help me write stories and a donation for materials from the local Lions club – organisations of local people who fundraise to support good causes. The local clinical director has agreed that in a year's time, the NHS will undertake a clinical audit to assess whether there has been a reduction in acute exacerbations in children's asthma presenting in primary care in Sale.

## Reflecting on progress

I have learned to trust my instincts as a nurse and to understand that, even if commissioners require evidence, the community is ready to participate in a worthwhile project. Rather than wait for investment, I have acted and people have responded. I have unearthed some long-hidden childhood passions for creative story-writing and performing. I have discovered other health professionals and members of the community who want to try creative approaches alongside me and eventually be trained by me to enable wider spread and adoption.

To build on progress so far, I intend to learn more about how to write good children's stories and to consider publication. Together with the published children's author from Sale who has agreed to help me, I will begin this autumn by writing a children's story together about the 'Sneeze Monster' ready for sharing at local Halloween parties.

My vision is that the town of Sale will become a demonstrator site for how to improve health literacy through play so that others can incorporate play into their own work with children.

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### Declaration

The ideas in this article form part of commercial asthma learning programmes developed by the author, called BreathChamps and BreathStars.

**Heather Henry** (MBA, RN), Nurse Entrepreneur, Brightness Management Limited, Sale, Greater Manchester, England.