

Hayes, Catherine (2018) Building psychological resilience in the paramedic.
Journal of Paramedic Practice, 10 (4). pp. 147-152.

Downloaded from: <http://insight.cumbria.ac.uk/id/eprint/3735/>

Usage of any items from the University of Cumbria's institutional repository 'Insight' must conform to the following fair usage guidelines.

Any item and its associated metadata held in the University of Cumbria's institutional repository Insight (unless stated otherwise on the metadata record) may be copied, displayed or performed, and stored in line with the JISC fair dealing guidelines (available [here](#)) for educational and not-for-profit activities

provided that

- the authors, title and full bibliographic details of the item are cited clearly when any part of the work is referred to verbally or in the written form
 - a hyperlink/URL to the original Insight record of that item is included in any citations of the work
- the content is not changed in any way
- all files required for usage of the item are kept together with the main item file.

You may not

- sell any part of an item
- refer to any part of an item without citation
- amend any item or contextualise it in a way that will impugn the creator's reputation
- remove or alter the copyright statement on an item.

The full policy can be found [here](#).

Alternatively contact the University of Cumbria Repository Editor by emailing insight@cumbria.ac.uk.

‘Building Resilience with LEGO® Serious Play®; Facilitating Affective Domain Learning for Paramedic Practice’

Abstract Paramedics face the need to be critically introspective, reflective and reflexive every working day. Their work involves not only the functional need to clinically assess, diagnose and manage critically ill and injured members of the public but also a situated responsiveness to the scenes of severe trauma and death. Few other professions demand such an acute degree of personal and professional resilience and an underpinning education to facilitate the development of resilience is pivotal for the equipment of an effective healthcare workforce. The need to facilitate all paramedics in deconstructing experience and making meaning from constituent aspects of paramedic practice, culture and context is a central element of their capacity for resilience and their psychological ability to recognise and apply coping strategies in their everyday role. This affective domain learning has been embedded across academic curricula and traditionally taught via teaching methods such as role play, inquiry based learning and simulation. This paper presents gamification as another potential methodology for inclusion in undergraduate curricula that can provide the future workforce with transferable skills of reflection and reflexivity in situational responsiveness. LEGO® Serious Play® and narrative storytelling are used to illustrate this discussion; a technique that originates from business and leadership teaching and learning methodologies but whose origins lie in the philosophy of social constructionism. An adaptation of Gilbert’s Multi-Modal Compassionate Mind Training is used to illustrate how LEGO® Serious Play® might facilitate the construction of affective domain learning for resilience in paramedic practice.

Keywords:

- Gamification
- LEGO® Serious Play®
- Paramedic Practice
- Social Constructionism
- Reflective Practice
- Resilience

Key Points about LEGO® Serious Play® Methodology

- At the heart of LEGO® Serious Play® is the philosophy of Social Constructionism. It is a mechanism whereby the hands engage thinking processes in the brain, which are expressed by building social objects with building bricks and then sharing stories about meaning.
- The role of the facilitator in LEGO® Serious Play® involves aiding participants in their creation of objects that symbolise and conceptualise the meaning of lived experience that can then be used to articulate personal and collectively shared meaning of critical incidents from practice.
- Both social constructivism and social constructionism can play a valuable role in inquiry-based learning, where case-based scenarios are used as a means of driving learning and encouraging critical engagement with the subject. LEGO® Serious Play® offers one mechanism by which this process can be facilitated.
- LEGO® Serious Play® offers one mechanism of engaging imaginations and providing a means of limitless expression that can later be applied in meaningful practice. This is particularly useful when teaching emotionally laden subjects such as resilience, where intrinsic engagement with critical self-reflection facilitates and operationalises behavioural change.
- The key to effectiveness in LEGO® Serious Play® is the development of a dialogue – most typically one that can be used to allow the articulation of meaning for staff who may have witnessed traumatic incidents that impact on their mental health and wellbeing on an ongoing basis. This metaphorically speaking, aids the process of building resilience and offers a means of articulating the conceptual basis of lived experience via a tangible three dimensional object.

Introduction

Within the context of paramedic practice, the situational contexts with which paramedics are faced on a daily basis can be an iterative source of lived experience that is potentially damaging to their mental health and wellbeing (Dixon, Keane and Taylor, 2016). From road traffic collisions to terrorist emergencies, it has been reported that 43% of all emergency services employees had taken time off work to deal with mental health issues and will experience a long term absence from work due to the impact of Post-Traumatic Stress Disorder (PTSD) at some stage of their career trajectory (MIND, 2014). As a direct consequence of this, the concept of psychological resilience is now a topic for debate in affective learning across many allied healthcare professions. This currently constitutes an integral part of all UK paramedic undergraduate/diplomate teaching curricula (Givati, Street and Markham, 2016; Darling-Hammond and Snyder, 2015). The need to move beyond tokenism in the resultant impact of affective domain learning facilitation is clear and gamification has the potential to catalyse behavioural change and adaptation to different situational contexts (Dias, 2017, Hetzel-Riggin and Meads, 2016).

The Origins of Social Constructionism as an Educational Philosophy

Historically, the origins of ‘serious play’ as a concept can be found in the seminal work of Piaget (1951) and the version later developed in Harel and Papert’s Complex Adaptive System Theory (1991). This was evaluated for use by Holland (2006) in terms of application to the contexts of leadership, management and organisational development. The procedural approaches to LEGO® Serious Play® illuminate its specific capacity to engage students in deeper reflection and collective constructive dialogue.

Kestly (2014) provided a valuable insight into the interpersonal neurology of play, examining the subcortical motivational systems in the brain. LEGO® Serious Play® powerfully influences the decision making processes and fundamental behaviours that are regulated in higher brain regions. She also highlighted the notion of ‘thinking with your fingers’, where the physical processes of creation facilitate reflection, an integral part of the profession of paramedic practice. Since cognitive processes of memory and deep learning

stem from the active interrelationship between psychology and neuroscience, the physical body is a key mechanism of interacting physically with the external world (Claxton, 2015). ‘Emergence’ is term used to represent the connection that happens in right mode processing of the brain, which attends to what is happening ‘in the moment’ within the emerging flow of new experience. When added to our already active left mode this is actually the zone of creativity, which is of direct significance to the LEGO® Serious Play® method. In turn, planning the right mode in the lead is pivotal in allowing what has not yet been thought to emerge via manual construction and gives natural integration of the brain, for something never before imagined. The process of play is temporal and specific to one moment in time. It also permits the notion of ‘flow’ where emotionally escapism, excitement, and social connection can be extended without interruption (Moshman, 2014). Neural change is best supported in instances where participants feel in a shared, collective and emotionally ‘safe’ connection with others (Wilson, 2010).

Of huge significance to paramedic practice is the concept that thoughts meanings and emotions are not just contained within people as metaphorical receptacles but that they exist between individual human relationships as part of a wider collective vision (Kristiansen and Rasmussen, 2014). The motivation for adult learners to ‘play’ is driven by affective experiential knowledge, the nature of which, they may wish to communicate (Furness, Lehmann and Gardner, 2016; Sandoval, 2014). In instances such as this, the context of playing provides a natural setting in which a voluntary or unconscious therapeutic or cathartic experience can take place (Frick, Tardini and Cantoni, 2013; Gauntlett, 2014).

Introducing the Potential of the LEGO® Serious Play® Method in Paramedic Undergraduate Education

Resilience in Paramedic Practice

The engagement of skills of critical introspection and critical reflexivity contribute extensively to the development of individual and collective resilience in professions who may experience events that can potentially

contribute to post traumatic stress disorder (PTSD) (Bracken-Scally et al, 2016). Schulz, Geithner and Kawamura (2015) and, later, Clompus and Albarran, (2016) then Loo et al (2016) and Michael, Streb and Haller (2016). These authors all reached the conclusion that there is a too minimally published evidence base on this subject area to date and that more research is needed in relation to the long term mental health implications of being an emergency responder. Recent terrorist atrocities have highlighted the role of the emergency services and the resultant impact on their health and wellbeing. This has also been the focus of the media rather than those with responsibility for ensuring the equipment of a resilient, compassionate and retainable workforce (Hunter and Warren 2014). Causative elements of stress can include a number of factors both intrinsic and extrinsic to the concept of resilience (Eakman, Schelly and Henry, 2016). For example an intrinsic factor could be the individual stress or vulnerability that a person is placed under and their individual capacity to cope. Extrinsically the degree of control that people have over events in their lives such as bereavement or loss, for example, can have a mammoth impact on their ability to cope with degrees of pressure. With expectations of higher order thinking skills in the most challenging contextual and situated contexts, paramedics are expected to function effectively and on an ongoing basis regardless of what they encounter in the context of their daily roles. Where witnessing death, unsuccessful resuscitation and severe blood loss are an everyday norm, it is clear that the pedagogic practice underpinning paramedic education, training and continuing professional development (CPD) must equip staff with the prerequisite resilience to cope personally as well as professionally (Brooks et al, 2016).

Using LEGO® Serious Play to Develop Paramedic Epistemic Cognition and Transferrable Skills in Affective Domain Learning

Via the deconstruction of experiential, situated learnings, which may well have their origins in a critical incident of an unfamiliar origin, three dimensional metaphor building with the hands provides the basis for the articulation of either an individual or collective narrative or discourse (Heracleous and Jacobs, 2011).

Exploring and reflecting on these issues is one potential use of LEGO® Serious Play in educational training for Paramedics. The power of expression and the articulation of emotion around care is something that ought to be contemplated regularly and having a medium through which to do this is essential: LEGO® Serious Play® is one such route (Cakir, 2008). Other topical approaches to

contemplation and reflection include mindfulness and the power of mindsight (Siegel, 2010).

Diagram A illustrates how Gilbert's (2009) Multi-Modal Compassionate Mind Training can be used to provide a resilience facilitation framework by working with social constructionism (via LEGO® Serious Play®) in practice. It affords the opportunity for processes of critical expression in LEGO® Serious Play® to incorporate a degree of reflexivity and contemplation of context not afforded by the original model.

Diagram A: An Adaptation of Gilbert's (2009) Multi-Modal Mind Training for Resilience

INSERT DIAGRAM A (Supplied as a Separate Email Attachment) HERE

Fundamentally what this diagram shows, is that the central core of resilience that ought to define paramedic practice is locked in outer shells of objectivity that must be accounted for, if recognition of how resilience is not only dependent upon objective and formal training but also the epistemic cognition that paramedics bring to their roles as part of their own experiential life trajectories. LEGO® building with the hands enables inner emotions and thoughts to be accessed and applied effectively to applied practice situations and contexts.

Instructional principles and agenda setting of LEGO® Serious Play

By building an object with LEGO® bricks (typically described as a social object because it acts as a medium by which students provide their individual stories and perceptions of significant events and contexts), paramedic practice students can be creative in expressing their thoughts and feelings on certain subjects and areas. The key to active learning in this instance is when the paramedic students may draw and make meaning of their own conclusions from their metaphorical brick building models (Hinthorne and Reeves, 2015).

The role of the facilitator is a delicate one in this situation—their role ought to be as a mediator of creative conceptualisation and experimentation who provides a supportive rather than a directive role in the construction of the three dimensional social objects. For example a good facilitator might support an individual student in asking questions about their building that might enable a student to select more bricks to articulate their story more extensively.

Agenda setting for any given session with Paramedics would involve:

1. Framing the challenge

The LEGO® Serious Play® facilitator presents a relevant challenge to the paramedic students, which will have no definitively correct answer but would be clear enough to avoid any degree of ambiguity once the building starts. For example, the paramedics might be asked what they think characterises resilience in paramedic practice.

2. Building with the LEGO® bricks

Paramedics would then build their response to what they thought characterised resilience in paramedic practice. Time is taken when the students designate specific meanings to the models they build and as a result of this they develop a story that represents how they internalise their response. It is in the narrative storytelling, though, that they convey the new knowledge they construct and at this point interpretation by others is neither necessary nor wanted. This new knowledge stems from the active construction process.

3. Storytelling

The paramedic students would then actively apply the meanings that have been designated to their social models (Hinthorne and Schneider, 2012). They would also listen to the stories of others, so that they can contextualise and frame their own conceptualisation within this (Gunnarsson, Linell and Nordberg, 2014).

4. Active reflection on meaning-making and shared perspectives

The LEGO® facilitator would then encourage the Paramedics to think and reflect about the meaningfulness of the experience of using the LEGO® as a medium of creative expression and to articulate their reflections of this.

Discussion and Conclusion

Building active capacity for resilience remain high on the agenda of all health and social care provision and the role of the paramedic remains pivotal to this in relation to their capacity to cope in adverse situational contexts. The levels of communication and clear articulation that LEGO® Serious Play® enables the development of means that Paramedics are able to effectively construct meaning-making in emergency care service provision. Where Paramedics can be encouraged to communicate more effectively, confidently and where they can be intrinsically motivated to think and reflect at a deep level about the situations with which they can potentially be faced, LEGO® Serious Play® offers one mechanism of engaging imaginations and providing a holistic means of expression that can later be applied in meaningful practice in coping strategies. The impact of LEGO® Serious Play® to business and the expansion of this into healthcare practice are

already well documented. The extent of the challenges that paramedics face in their everyday work necessitates a capacity to make meaning from experience, to consolidate and challenge assumptions from clinical practice and a consideration of the potential for extension of these skills via social constructionist methodologies in undergraduate education and training and CPD (Burke, Redfern and Marks-Maran, 2016). The process also advocates the use of topical and sometimes very emotive challenges for focus in the LEGO® Serious Play® sessions. These potentially afford undergraduate and diplomate paramedic students and the paramedic workforce who undertake annual CPD the opportunity to consider how developing resilience is now an integral part of undergraduate education and ongoing developmental learning pathways. The technique can also afford a collective shared experience and meaning making in critical incidents that could potentially contribute to the development of PTSD. Narrative storytelling is a significant part of the process, enabling assumptions to be challenged and for transformative learning opportunities in the affective domain to develop. A major consideration in the methodological approach is how personal resilience undoubtedly underpins the professional resilience mechanisms that can be actively taught and developed. This regard what is experienced by paramedics will ultimately determine how resilient an individual paramedic is but posing whether resilience is a constant characteristic or whether it is a dynamic state of flux is debateable in relation to the expectations, norms and cultures of the profession. Where the technique is invaluable is in instances of complex ambiguity or abstraction in the context of perceived reality and experiential learning, where symbolism with the building blocks ensures a means of adding a dialogic mechanism of storytelling that reflects a perceived reality. Whilst the medium of LEGO® Serious Play® pragmatically very useful in relation to the pragmatic availability and reusability of the bricks, other media can be used. Typical examples are working with clay, sketching, and crafting with wooden models. The physical media for construction is largely irrelevant as long as it has the possibility of making the abstract concrete and visible. It is here that the building blocks can be particularly advantageous as they afford the opportunity of visually representing perceptions and disconnections and can readily be modified and changed to represent specific circumstances. This dynamic feature gives what can arguably regarded as an advantage in contrast to other media, such as clay, which remain static once they physically harden. Since engagement, immersion and flow are pivotal then LEGO® Serious Play® is ideal. The physical process of building allows participants in the process to gain awareness of their own epistemic cognitions and the individual assumptions this drives as well as developing and discussing ideas within a situationally relevant setting (Bjørndahl et al, 2014). To a certain extent the oxymoron of ‘serious play’ needs no further explanation in the context of building personal and collective

resilience for paramedics as a profession. Whether as part of core undergraduate academic curricula or as a constituent part of CPD for the profession, the objective consideration of the narrative discourses generated ensure that the association of play with something purely subjective is nullified and its seriousness is represented in the storytelling that ensues. In relation to the challenging and situationally responsive climate that paramedics work, LEGO® Serious Play® provides a clear opportunity to embed resilience building into the traditional affective domain learning of paramedic curricula.

References

Bjørndahl JS, Fusaroli R, Østergaard S, Tylén K (2014) Thinking together with material representations: joint epistemic actions in creative problem solving. *Cognitive Semiotics* 7(1): 103–23

Bracken-Scally, M., Bracken-Scally, M., McGilloway, S., & McGilloway, S. (2016). A qualitative exploration: life after the emergency services. *International Journal of Emergency Services*, 5(2), 158-173.

Brooks, S. K., Dunn, R., Amlôt, R., Greenberg, N., & Rubin, G. J. (2016). Social and occupational factors associated with psychological distress and disorder among disaster responders: a systematic review. *BMC psychology*, 4(1), 18.

Burke, L., Redfern, M., & Marks-Maran, D. (2016). Continuing professional development for non-medical health care professionals: History, issues and challenges. *International Journal of Continuing Education and Lifelong Learning*, 8(2), 85.

Cakir M (2008) Constructivist approaches to learning in science and their implications for science pedagogy: a literature review. *International Journal of Environmental and Science Education* 3(4): 193–206

Claxton, G. (2015). *Intelligence in the Flesh: Why Your Mind Needs Your Body Much More Than It Thinks*. Yale University Press.

Clompus, S. R., & Albarran, J. W. (2016). Exploring the nature of resilience in paramedic practice: A psycho-social study. *International emergency nursing*, 28, 1-7.

- Darling-Hammond L & Snyder J (2015) Meaningful learning in a new paradigm for educational accountability: an introduction. *Education Policy Analysis Archives* 23(7).
- Eakman, A. M., Schelly, C., & Henry, K. L. (2016). Protective and vulnerability factors contributing to resilience in post-9/11 veterans with service-related injuries in postsecondary education. *American journal of occupational therapy*, 70(1), 7001260010p1-7001260010p10.
- Dias, J. (2017). Teaching operations research to undergraduate management students: The role of gamification. *The International Journal of Management Education*, 15(1), 98-111.
- Dixon, M., Keane, F., & Taylor, A. (2016). Paramedic Education—is dynamic Problem Based Learning the way forward? *Irish Journal of Paramedicine*.
- Frick, E., Tardini, S., & Cantoni, L. (2013). LEGO® ® SERIOUS PLAY®-A state of the art of its applications in Europe. *White Paper, Università della Svizzera italiana, Lugano, Switzerland*.
- Furness, S. E., Lehmann, J., & Gardner, F. (2016). Autoethnographic analysis of the self through an occupational story of a paramedic. *Journal of Paramedic Practice*, 8(12), 589-595.
- Gauntlett, D. (2014). *The LEGO® System as a tool for thinking, creativity, and changing the world*. Routledge, London
- Gilbert P (2009) Introducing compassion-focused therapy. *Advances In Psychiatric Treatment* 15(3): 199–208
- Givati, A., Street, K. I., & Markham, C. (2016). On the road again? Training paramedics in Higher Education in the UK. In *ISA Forum of Sociology: The Future We want: Global Sociology*.
- Gunnarsson, B. L., Linell, P., & Nordberg, B. (Eds.). (2014). *The construction of professional discourse*. Routledge.
- Harel I, Papert S, eds (1991) *Constructionism*. Ablex Publishing, Piaget, Norwood NJ

Heracleous L, Jacobs C (2011) *Crafting strategy: embodied metaphors in practice*. University Press, Cambridge

Hetzel-Riggin, M. D., & Meads, C. L. (2016). Interrelationships Among Three Avoidant Coping Styles and Their Relationship to Trauma, Peritraumatic Distress, and Posttraumatic Stress Disorder. *The Journal of nervous and mental disease*, 204(2), 123-131.

Hinthorne LL, Reeves LS (2015) Using purpose-made objects for visual research: an exploratory case study. *Visual Communication* 14(2): 155–78

Hinthorne LL, Schneider K (2012) Playing with purpose: using serious play to enhance participatory development communication. *International Journal of Communication* 6: 2801–24

Holland, J. H. (2006). Studying complex adaptive systems. *Journal of Systems Science and Complexity*, 19(1), 1-8.

Hunter, B., Warren, L., Cardiff University (2013) *Investigating Resilience in Midwifery Final Report* funded by the Royal College of Midwives. <https://www.rcm.org.uk/sites/default/files/Investigating> accessed 28/05/2017

Kestly, T. A. (2014). *The Interpersonal Neurobiology of Play: Brain-Building Interventions for Emotional Well-Being (Norton Series on Interpersonal Neurobiology)*. WW Norton & Company.

Kristiansen, P., & Rasmussen, R. (2014). *Building a Better Business Using the LEGO® Serious Play Method*. John Wiley & Sons.

Loo, G. T., DiMaggio, C. J., Gershon, R. R., Canton, D. B., Morse, S. S., & Galea, S. (2016). Coping behavior and risk of post-traumatic stress disorder among federal disaster responders. *Disaster medicine and public health preparedness*, 10(01), 108-117.

Michael, T., Streb, M., & Häller, P. (2016). PTSD in paramedics: Direct versus indirect threats, posttraumatic cognitions, and dealing with intrusions. *International Journal of Cognitive Therapy*, 9(1), 57-72.

Mind (2014) *Research finds stress affect nine in ten emergency services personnel*; <http://www.mind.org.uk/news-campaigns/news/mind->

research-finds-stress-affect-nine-in-ten-emergency-services-personnel/#.VXrN-e9RGM8 accessed 28/05/2017

Moshman, D. (2014). *Epistemic cognition and development: The psychology of justification and truth*. Psychology Press.

Papert S, Harel I (1991) Situating Constructionism. In: Constructionism, Ablex Publishing, Norwood NJ

Piaget J (1951) The Child's Conception of the World. Routledge, London

Sandoval, W. (2014). Science education's need for a theory of epistemological development. *Science Education*, 98(3), 383-387.

Schulz, K. P., Geithner, S., & Kawamura, T. (2015). Applying Tool-Kit-Based Modelling and Serious Play: A Japanese Case Study on Developing a Future Vision of a Regional Health Care System. In *Challenges and Opportunities in Health Care Management* (pp. 291-305). Springer International Publishing.

Siegel, D. J. (2010). *The mindful therapist: A clinician's guide to mindsight and neural integration*. WW Norton & Company.

Wilson, F. R. (2010). *The hand: How its use shapes the brain, language, and human culture*. Vintage.