



June 2012

Narrative Imagination: a Design Imperative

Robert Tully

Dublin Institute of Technology, Robert.tully@dit.ie

Follow this and additional works at: <http://arrow.dit.ie/ijap>

Recommended Citation

Tully, Robert (2012) "Narrative Imagination: a Design Imperative," *Irish Journal of Academic Practice*: Vol. 1: Iss. 1, Article 8.
Available at: <http://arrow.dit.ie/ijap/vol1/iss1/8>



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](https://creativecommons.org/licenses/by-nc-sa/3.0/)



Narrative Imagination: A Design Imperative

**Robert Tully,
Department of Design, School of Art, Design & Printing, Dublin Institute of
Technology, Dublin. Ireland.**

Abstract

Each generation entrusts the collective future to the next. Just like the oral traditions of our past continue to manifest in our consciousness, we need to tell stories today that will free the imagination. Designers in particular need to develop the ability to articulate the imagined possibilities that the narrative imagination can create. In order to appreciate the complexity of interactions that are occurring in a spatial or object orientated context we need to think about the imagination as a vehicle to discover and explore these new possibilities. To do this we need to enhance our capacity to access the imagination and use it as a constructive and formative tool for generating concepts. This paper sets out to consider storytelling in design education as a vehicle for imaginative exploration. The narrative is used as the vehicle to stimulate and manage this imagination. Reference is made to a design education intervention where the focus of activity is on developing a narrative approach within a three-dimensional design module. The process is described in this paper as well as student observations of the experience.

Keywords

Imagination, creativity, narrative, storytelling, design, education

“Imagination, a licentious and vagrant faculty, unsusceptible of limitations and impatient of restraint, has always endeavoured to baffle the logician, to perplex the confines of distinction, and burst the enclosures of regularity.” (Johnson, 1751, p28)

“A storyteller is one who creates an atmosphere where wisdom can reveal herself” Attributed to the Inuit people (Storytelling, 2010)

Aims:

A recent design education symposium “Researching Design Education” organised by the CUMULUS Association and the Design Research Society emphasises the importance of design research to develop and support design pedagogy. According to Shreeve (2011) the development of creative thinking approaches are central to design learning. The primary aim of this research was to advance design research and pedagogy by undertaking an exploratory intervention in a design project which would consider and evaluate the potential of stimulating imagination through narrative engagement. While the subject of the research has focussed on the area of spatial design, the object of the study relates to the stimulation of imagination for the purpose of generating creative spatial and object design possibilities. Dahl (1998) explores the use of visual mental imagery in new product design and acknowledges that designers form mental images of a design and its effects and then evaluate those effects. To enable the development of these mental images this research intervention used carefully selected digital and analogue props and students were given a brief with a number of limiting conditions. These conditions involved imagining and describing the concept in a story telling narrative prior to sketching and model making. Critically no computer aided design or drafting tools could be used, the entire process had to be analogue.

Context:

The general literature on design acknowledges or suggests the significance of creativity in design (Chapman & Grant, 2007; Dorst & Cross, 2001; Heskett, 2002; Moggridge, 2007; Sparke, 2004). However, reference to imagination in design is a pathway less travelled with some notable exceptions. (Barnwell, 2011; Buscher, Eriksen, Kristensen & Mogensen, 2004; Gaver, Beaver & Benford, 2003) While the focus of discussion in this paper will be centred on the imagination in the context of narrative and storytelling, the link between imagination and creativity needs to be acknowledged at that outset. This paper will assume an intrinsic link between the two while recognising the distinct relevance of each in the development of the human condition. A substantial literature exists which considers the meaning of each of these terms distinctly as well as their relation to each other and would in itself warrant a greater interrogation than this paper will allow.

The Concise Oxford Dictionary defines 'creative'[ity] as '1 inventive and imaginative', while defining 'imagination' as '1 a mental faculty forming images or concepts of external objects not present to the senses. 2 the ability of the mind to be creative or resourceful'. Duch (2007) suggests that creativity requires prior knowledge of the domain, imagination, and filtering of interesting results. Cremin, Burnand & Craft (2006), propose that creativity refers to the use of imagination and possibility thinking and suggest that imagination is the ability to think of all things as possible.

The literature on imagination itself is filled with similar, differing, and conflicting definitions and meanings for the term. Over time different cultural and linguistic connotations have emerged. Kearney (1988, p15) suggests that "some of the most influential variants of the term *imagination* include the Hebrew *yetser*, the Greek *phantasia*, and *eikasia*, the Latin *imaginatio*, the German *Einbildungskraft* and *Phantasie*, and the English and French *imagination*". He suggests that the unifying theme that they all have in common is the reference to the image making power of man. He goes on to further suggest that in Western thought the human ability to 'image' or 'imagine' has been understood in two ways, "as a representational faculty

which reproduces images of some pre-existing reality” and “as a creative faculty which produces images which often lay claim to an original status in their own right.”

A case for imagination

Hough (2007) refers to Albert Einstein, who spoke of “playing” with ideas and using his imagination before he got onto the logical way of thinking: “Imagination is more important than knowledge” claims Einstein, “For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand” Einstein goes on to suggest that “the true sign of intelligence is not knowledge but imagination.” In *Imagination vs. knowledge*, Trowbridge (2007, p1) argues that:

Without knowledge, the gains of the past are lost. Without imagination, the gains of the future are never realized. The great scientific and creative minds of today stand upon the shoulders of past knowledge and imagination. Knowledge gives us the tools. Imagination helps us to use those tools

Imagination, it could be argued is one of those terms that define the human condition. It is central to the construction of knowledge and the generation of understanding.

Beaney (2005, p2) suggests that “Imagination infuses so much of what we do, and so deeply, that to imagine its absence is to imagine not being human”. He further suggests that the imagination impacts across the full range of human experience. “Indeed, it may be hard to find an experience in which the imagination is not somehow involved”. Young & Annisette (2007, p101) argue that “imagination provides us with the alternatives that we perceive as possible to explore”. They indicate that the “more fertile our imaginations, the more alternatives we may explore and the more fruitful and fully we can explore their possible implications”. Dewey (1987, p.349) suggests that the imagination is essential to making us “aware of the constructions that hem us in and of burdens that oppress” and that our imagination

provides us with a contextual awareness, enabling us to make sense of the world and construct new possibilities.

However, Gallas, (2001, p459) points to a difficulty facing the formal integration of imagination into the educational discourse when suggesting that:

The use of imagination....is not new to the field of education...but for educators and researchers it remains, with a few exceptions, a peripheral subject. Educators know intuitively that imagination is important, but it is difficult to describe how, when, and why it is important

The role of education in the development of the imagination is significant. Carroll & Tobin (2003) refer to dramatic performance as a means of envisioning the future and suggest that preliminary preparation is important in priming participants in this process. Dator (1993, p.4) suggests that “people are able to envision futures both more ‘realistically’ and more imaginatively after they have had their awareness of the possibilities raised”. In Dulloo (2008, p.3), Iannone, discusses the lack of connection between curriculum and teaching when it comes to giving meaning and value to the imagination, suggesting that “Today, not only the artists but also businessmen, scientists, military leaders, and educators describe imagination as the major force that goes beyond the mastery of facts and techniques in search for new ideas.”

Kangas (2009, p.1-15) indicates that “research shows that one way to foster creativity, imagination and group work skills, alongside academic achievements, is to integrate fact-and-fiction and playfulness into teaching. It also provides an approach for meaningfully integrating various curriculum subjects and learning goals”. While Kangas research is applied to primary school children, the need to foster these skills in higher education remains substantial and compelling. One of the central motivations behind this particular paper is the need to enhance the imagination, creativity and competence of graduates of design. In “Bridging the Gap”, The Open University Centre for Higher Education Practice, suggest that several studies have shown that students’ ability to learn in an in-depth and creative way decreases during university years. As educators, we should seek ways to ensure that this transitional

period in the development of our future generations has not been limited by our own lack of imagination.

However, the ambiguity in defining imagination can inhibit the educators' engagement with the subject and while educators may recognise the importance of imagination and discuss the need to engage in educational interventions that can enable the development of the imagination, there is still little evidence of substantial activity around imagination even within the 'creative' disciplines. This dilemma with the imaginations intangibility and dissension to measurement and definition is at odds with the outcomes based demands of today's higher education system.

Setting an historical context for the narrative imagination

It manifested our human power to transcend the human. Men strove to create a world that was not of this world (Sartre, 1947, p.58)

McNeil (1996) indicates that humans have a natural pre-disposition to narrative, which began to manifest approximately 40,000 years ago with the expression of a range of new modes of narrative expression including cave art, ritual dances and oral narratives. As a species, one of our defining characteristics is our desire to tell stories both in a visual and oral manner. These characteristics are evidenced by a myriad of examples from the ancient wall paintings in France to the legends and myths of our own cultural past. All cultures, for millennia have constructed narratives as part of their 'traditions'. These narratives establish links between the past, the present and the future. Sikes and Gale (2006) describe human beings as storying creatures making sense of the world and the things that happen to us by constructing narratives to explain and interpret events both to ourselves and to other people. They form a learning framework that builds on the knowledge of the past as a way of constructing a realisable future. It is reasonable to argue that the extent of this way of constructing a knowledge of time, place and event has evolved over such a long period of time that it is perhaps our most important learning resource.

Oral stories and storytelling are intimations of something very old that has its roots in the origins of language and human culture. According to Livo & Rietz, (1986) in the act of telling stories, we are all one community. Stories enable a connectedness across time and place. Newman (2005, p.146) suggests that “there is evidence that certain narrative scripts have become an inherent part of the genetic make up of our species” and that “because of their usefulness, have been repeated over so many generations that they have become embedded in our psyches.” Mellon in *Storytelling and The Art of the Imagination* (1992, p.3) suggests that the "The ancient art of storytelling... awakens and nourishes the timeless and archetypal experiences, symbols, and forces within us all." Schank (1995, p.19) in outlining the significance of stories, suggest that “Humans are not ideally set up to understand logic. They are ideally set up to understand stories."

A case for storytelling and narrative

White (1981, p.1) underscores the ontological role that narrative takes in our lives:

To raise the question of the nature of narrative is to invite reflection on the very nature of culture and, possibly, even on the nature of humanity itself. So natural is the impulse to narrate, so inevitable is the form of narrative for any report of the way things really happened, that narrativity could appear problematical only in a culture in which it was absent—absent, or, as in some domains of contemporary Western intellectual and artistic culture, programmatically refused.

In her article, *Storytelling Builds Imagination in Toddlers and Young Children* Wright (2009) suggested that there is growing evidence of the power of storytelling and that anecdotal evidence as well as scientific studies indicate that storytelling can help develop the imagination, inspire learning, teach body language and facial expressions and enhance reading skills. Storytelling has long been part of a child’s educational development; however, its use as a learning tool in higher education has not been adequately explored and offers great potential in supporting the learning process.

The use of a narrative pedagogy to enable the development of imagination is not a new concept in itself. Narrative pedagogies are used to enhance teaching and learning in fields as diverse as architecture and nursing. Ironside (2003) suggests that the emphasis in narrative pedagogy is not on creating an ideal, romantic, or nostalgic classroom or curriculum, but on gathering educators and learners into conversations enabling different positions and perspectives to be considered. In this way, Diekelmann, (2001), suggests that the narrative pedagogy gathers all pedagogies as educators and learners interpret their experiences from the various perspectives, including conventional, critical, feminist, postmodern, and phenomenological, while the narrative pedagogy which Ironside (2003) and Diekelmann (2001) refer to is essentially discipline specific the essence of its process is appropriate for the dynamics of design education. The application of a narrative pedagogy in design education engages both the lived and imagined experiences of both educators and learners in a shared context.

Egan (1997) sees the educative and creative value of stories as the primary function of narrative expression. For him storytelling is a generative activity that creates an integrated and "educated mind," one that is connected to both the logical and imaginative ways of knowing. He also suggests that stories, both in format and presentation, are essential pedagogical tools for teaching and learning.

Story and narrative; defining the terms

The Concise Oxford dictionary defines “story” as an account of imaginary or past events; a narrative, tale, or anecdote. It also defines “narrative” as a spoken or written account of connected events in order of happening. Within this paper, both shall be used with a degree of license and interchange

The art or craft of narration of stories in verse/and or prose, as performed or led by one person before a live audience; the stories narrated may be spoken, chanted, or sung, with or without musical, pictorial, and/or other accompaniment and may be learned from oral, printed, or mechanically recorded sources; one of its purposes may be that of entertainment. (Pellowski, 1990, p.15)

In *Storyteller* Ramon Ross (1980) attributed a story's power to its ability to "act as a latchkey to a storehouse of familial and cultural memories." He pointed out that each of us brings unique individual experience to our interpretation of story events and motifs. A story may suddenly remind us of things long forgotten. Pura Belpre, now a storyteller herself, told *The New Yorker* about the tales she grew up with in Puerto Rico: "The stories were like kisses from my grandmother, and I loved them, because when I heard them my mind was nothing but pictures." The power to construct pictures in the mind is essentially the quality we want to extract from the process of using imaginative storytelling in constructing design scenarios. Pictures constructed in the freedom of the imagination that can be communicated across to the "audience" through the medium of an object or a space or a constructed experience.

Narrative is defined by Ricoeur (1984) as the discourse of a narrator recounting the discourse of the characters, which he suggests arises from the natural human need to give meaning to things. Because the narrative allows the development of a sense of identity, it is, in fact, the very condition of possibility of individual and social existence (Polkinghorne, 1988). Manfred (2005) suggests that a narrative is a form of communication which presents a sequence of events caused and experienced by characters. Both Chatman (1990) and Bal (1985) support this general position and argue that anything that tells a story, in whatever genre, constitutes a form of narrative.

Narrative can be supported by articulated speech, oral or written, by images, fixed or moving, by gesture, and by the organised combination of all these substances; it is present in myth, legend, fable, tale, tragedy, comedy, epic, history, pantomime, painting (think of Capraccio's Saint Ursula), stained-glass windows, the cinema, comic books, news items, conversation. Moreover, in these almost infinite forms, narrative occurs in all periods, places and societies; narrative begins with the very history of humanity; there is not, nor has there ever been, a people anywhere without a narrative ... narrative never prefers good literature to bad: international, transhistorical, transcultural, narrative is there, like life. (Barthes 1994, p.95)

While these are basic definitions and descriptions of story and narrative and provide an introduction to the concept of a form of communication central to the theme of the paper, both “story” and “narrative” will undergo a substantial, though not comprehensive interrogation of meaning and context within this paper. The purpose of this interrogation is to assist in illustrating the value of the "story" and "narrative" form in the development of imagination and creativity within the discipline of design.

The literary experience of narrative imagination

In this paper I suggest the use of narrative theory in the broad terms already outlined and propose its potential as a creativity based development tool for the exploration of the design space. The oral tradition has pervaded our consciousness for millennia. Stories, myths, legends told and retold as manifestations of awareness, understanding, learning, culture and identity. Some stories and narratives were assigned to manuscripts, some recounted in visual representation, but up until the middle ages the oral tradition was the dominant vehicle for recounting the stories and narratives. The advent of the Gutenberg printing press around 1450 changed the medium of the story in a profound way. Eisenstein (1985, p.19-34) refers to the revolution of the printing press and the broad view of its significance as an agent for change in literacy and society. She indicates that print “encouraged the spread of literacy among people who had no access to manuscripts”.

As a consequence of the development of printing technology the Novel was born and the globalisation of imagination in its narrative form would change civilisation.

Robinson Crusoe, (Daniel Defoe, 1719), Ivanhoe, (Walter Scott, 1819), Oliver Twist, (Charles Dickens, 1838), The Three Musketeers, (Alexandre Dumas, 1844), Moby-Dick (Herman Melville, 1851), 20,000 Leagues Under The Sea (Jules Verne, 1869), Adventures of Huckleberry Finn (Mark Twain, 1885), have shaped and informed the minds and imaginations of generations. Ulysses, (James Joyce, 1922), Animal Farm, (George Orwell, 1945) Lord of the Flies, (William Golding, 1954), QB VII, (Leon Uris, 1970), The Gulag Archipelago, (Aleksandr Solzhenitsyn, 1973), are all part of

the narrative heritage which allows every reader into worlds and adventures only to be imagined.

The stories within the bindings of these novels open up powerful visual vistas within the imagination of the reader. They construct images within the mind, which draw on all the senses. A link is formed between the real and the imagined in a way that informs the reader of the writers imagined experience through the characters and events. Mellon, (1992, p.3) argues that:

The imaginative world, though an unstable region, is a profoundly real one. In it is constant motion and transformation; it is like children who are playing. Gradually you can orient yourself and interpret what is happening there. You can delight in the discovery of new boundaries around the powerful, and disappear again from the dream depths of our imagination, and interweave them with your ordinary consciousness.

Perhaps most significant is the realisation that every story told, heard or read is imagined differently. Every story told, heard or read is informed by our own reality and the lives we live and the lives we live are fuelled by the imaginings. Stories and narratives enable the sharing of all experience, imagined or real, real or imagined, to become real or imagined in our own experience.

A design context for narrative imagination

In terms of the application of narrative in design Erickson, (1996, p.3) argues that “Stories provide a good first pass at what is important, from the point of view of the users; they provide the designer with a glimpse of what the user’s terrain feels like, and thus provide a starting point for further exploration.” As Bruner (1990) points out, storytelling is part of how humans translate their individual private experience of understanding into a public culturally negotiated form. This form can manifest itself in a number of ways, in products, in spaces, in services. The story allows us make sense of and construct meaning around our needs. For the designer the story enables the construction of empathy and emotion and connection.

Turner (1996) argues that the mind is literary: it uses what we often categorise as literary devices to think about the most ordinary problems. He recognises as one of the most basic building blocks of cognition, what he calls “spatial stories”. Tversky and Lee (1998, p157-175) refer to the way in which “language provides a systematic framework to describe space”. They suggest that language can be successful in conveying space, given the extent that space is schematised similarly in language and cognition. The power therefore of language itself as a tool for constructing imagined space is not to be underestimated. Paxman (2003) suggests that when we enter an unknown realm, we map by anticipation, registering the strange by referencing to the familiar. Salen & Zimmerman (2004) suggest that the designer as author of the design process is required to construct a context which will be experienced by participants. They suggest it is from this contextual experience that meaning emerges. Triantafyllakos et al. (2008) indicate the importance for designers to be able to develop methodologies which arouse users’ creativity and intuition. Design education is at the forefront of enabling these activities and needs to develop more engaging interventions.

The research base for this paper is placed within the context of narrative theory. According to Fischer (1987) the narrative paradigm is all encompassing and that; (a) People are essentially storytellers; (b) People make decisions based on good reasons; (c) History, biography, culture, and character determine what we consider good reasons; (d) Narrative rationality is determined by the coherence and fidelity of our stories; (e) The world is a set of stories from which we choose, and constantly re-create, our lives. Fischers (1987) work on Narrative Theory was centred on rhetoric and communications. Communication is at the centre of the human condition and central to the process of design.

Educational Intervention – a relevant context

In response to research activities and discussions that have been undertaken as part of two EU Leonardo Da Vinci projects, eCIT and creaCIT as well as ongoing developments in the authors own educational practice, action was taken to make a number of educational interventions within modules of BA Design (interior and furniture). The intervention at the centre of this paper involves the use of narrative

and storytelling as tools in the creative development of the designers' conceptual imagination. The project brief and general module parameters were not substantially changed from the normal project/module context. However, there was a shift made in both the theory base underpinning the module and the students' appreciation of how that theory base would apply to the project/module being undertaken.

A fundamental shift in terminology was made from consideration of the usual project language of surveys, design concepts, sketch schemes, presentation drawings and computer aided design and drafting, to narratives, story-telling, imagination, discussion and communication. The intention of this shift was primarily to remove the perceived 'subject' or 'discipline' limitations and enable a broader conceptual framework to emerge and enable transformational learning to occur. Bruner (1965) described transformational learning as an act of learning which involves three simultaneous processes: the acquisition of new information; the transformation of knowledge to make it fit new tasks; and reflective process. It is important to recognise that it is necessary for students to have a comprehension of existing project language in order to enable transformational learning to occur.

To facilitate the shift to a broader conceptual framework, it was also decided to make some changes to the studio/lecture dynamics. This was enabled using a series of 'props' or 'actors' which would displace [though only slightly] the expected/anticipated dynamic interactions between students and students and lecturer. These 'props' and 'actors' act as dramatic constructs to "provide immersion in a rich sensory, emotional and physical environment that stimulates imaginative ideas and images to initiate and enhance design processing" (Horne, 2007, p116).

Students were first of all encouraged to imagine their concepts in stories or narratives. These stories or narratives had to be 'told' in class. The objective was to enable detailed narratives of discovery and to enable empathy between student and space and student and imagined user. Their concepts were to be described in an experiential manner, with descriptions of space, light, emotion, sound, mood, details etc.

Students were encouraged to develop and communicate their final concepts through basic visualisation methods such as sketching and simple model making. Baskinger &

Nam (2006, p1) describe these as “analogue” methods for visual communication and include hand-generated sketches, diagrams and narratives. They suggest these are of interest as they can bring powerful perceptual and conceptual processes to bear in making inferences and subsequent decisions. The students were actively discouraged from using computer aided design, drafting or modelling tools, in an attempt to enhance the visual process. The focus on hand generated methods was primarily to encourage a more ‘honest’ exploration to engage the imagination of both the student and their intended audience. Baskinger & Nam (2006, p.1) also suggest that:

“The very premise of visualisation is that a conceptual model is created to convey thinking, or “tell a story” to someone else. Therefore, as a visual “story,” it must sequentially reveal information across the viewing plane in an orderly and scripted fashion”

Feedback from Students

At the end of the module, a narrative questionnaire was issued to each of the students who participated. The objective was simply to illicit feedback to determine the effectiveness of the module from a student perspective. Of the eleven students who took part in the module, eight students returned the questionnaire. The three students who did not complete questionnaires were not in attendance on the day they were issued. Questionnaires had to be filled out in the studio as soon as they were circulated.

By the end of the module most of the students (7/8) found that design narratives were either relevant or very relevant to the design process. Narrative responses included: “It was a very unusual way of getting a concept across”, “helps in ways we wouldn’t acknowledge before”. Initially some students found it “difficult to grasp at first” but ended up “better able to communicate ideas” and “I knew a lot more about my work”.

The students found that the theory supporting the module provided an adequate understanding (6/8) of design narrative for them to explore the subject, (2/8) felt the theory provided a more than adequate understanding for them. The narrative response included “It was a new way for me to go about my work. I don’t think I was very

good at it the first time round, perhaps if it was brought in again I'll get better at it.", and "I would like to gain a better understanding". The teaching process itself was positively supported by the students. All students found it appropriate with (5/8) finding it very appropriate and that it support "good interaction". When asked about the teaching environment one student (1/8) found that it was not very appropriate, "having no private lecture room restricted full confidence in speaking up in class". The studio where the work was undertaken is shared between two specialisation's over two years of a design program and is always a busy space. One student felt that "in some ways having a limited environment led to a better atmosphere and creativity". However, a number of the students drew attention to the presentations and props that supported the activities and found these very useful and "lots of fun" and that "it brought our imagination to place where anything is possible". All students expressed an interest in exploring creativity and innovation further with half interested in exploring imagination further and half wanting to investigate narrative further.

In relation to the process assisting them in the development of their understanding of design, most students (5/8) found it helped them a lot. The narrative response included "it put me in the customer's shoes and how they would want to feel" and "the narrative explores all aspects of design". Only one student felt it did not help them with the design process. All of the students found that stories are a valuable resource in the learning process with half of them expressing that it is a very valuable resource. The narrative responses included "stories are one of the oldest methods of learning and explaining things" and "very valuable in learning the qualities of your own design".

When asked about preference in terms of stories as against evidence & facts as a learning resource most (6/8) had a preference for a mix of both. Most students (6/8) also suggested they would use stories again in the development of their concepts suggesting that it "allows a freedom of exploration – recognise the importance that you otherwise might overlook". All of the students felt the story format helped them improve their communication skills with most feeling it helped a lot (7/8) suggesting that it "helps build confidence".

In evaluating the design work produced by the students during the module it was clear that the quality of their standard visual presentation was lower than we would normally receive from students at this stage in their development. It must be explained that they were not allowed use computers to construct or aid their presentations. However, the quality and depth of concept was substantially better. Their understanding of their own process was improved and their confidence in communicating the qualities of their concepts improved.

Overall the intervention proved to be a positive experience for the students involved. The concept of working explicitly with narrative enabled them to explore design from another perspective. While the intervention was small and the research evaluation limited it is clear that this type of intervention warrants further consideration.

Conclusion: Designing the future

The module intervention described in this paper is a small but positive affirmation of the role that the narrative imagination has to play in design education and in design in general. If it is our intention to encourage the highest degree of creativity and innovation from our future generations of students and graduates we must begin to enable the narrative imagination to take them on previously un-imaginable journeys of discovery.

Design by its very nature is about constructing the future. In the increasing mixed realities of today, greater demands are placed on the role of design to envision the future and construct future scenarios. Fish (2006, p.2) talks about the role of the narrative in constructing the future suggesting that “narratives are simultaneously highly imaginary and realistic constructions: while they don’t exist as such, they have very tightly defined sense of actuality.” This facilitation of imagination within the design process is at the centre of the intention with the intervention described in this paper. The “idea of narrative allows individuals to confront the world in a way that they recognise and experience it: as a matter of conflict.” (Fish, 2006, p.2). It is this experience of the individual captured through the process of facilitation that needs to be explored further as a means to constructing design narratives that are highly personal and imaginative. Fish (2006) also suggests that it is through these narrative

explorations that we can give meaning to our imaginations and construct a better future with greater understanding of ourselves as individuals and social groups.

Each generation entrusts the collective future to the next. Like the oral traditions of our past continue to manifest in our consciousness, we need to tell stories today that will free the imagination. Designers in particular need to develop the ability to articulate the imagined possibilities that the narrative imagination can generate. Developing the narrative imagination is central to the challenges that designers face. The initial responses have been positive, but much now needs to be done to seed the benefit within the field of design education. Evidence from this research would suggest that the student learning experience of conceptual development can be enhanced through carefully constructed interventions of the nature outlined in this paper. It must be acknowledged that the sample in this research was small and therefore the findings are not generalizable. Further research interventions are planned around narrative imagination in the areas of interior, furniture and product design and it is anticipated that these will contribute to and inform the development of design research and design pedagogy.

REFERENCES:

- Bal, M. (1985). *Narratology: Introduction to the Theory of Narrative*. Toronto, Canada: University of Toronto Press.
- Barnwell, M. (2011) *Design, Creativity & Culture: An orientation to design*, London: Black Dog Publishing.
- Barthes, R. (1994). *Introduction to the Structural Analysis of Narratives. The Semiotic Challenge*. Ed. by Roland Barthes. Trans. by Richard Howard. (pp. 95-135), Berkeley & Los Angeles: University of California Press.
- Baskinger, M., & Nam, K-C., (2006), *Visual Narratives: The Essential Role of Imagination in the Visualisation Process*, In Proceedings of the Asia Pacific Symposium on Information Visualisation 2006. Tokyo: Japan.
- Beaney, M., (2005), *Imagination and Creativity, Open University Course AA308 Thought and Experience: Themes on the Philosophy of Mind*. Walton Hall, Milton Keynes: UK. The Open University.
- Bruner, J. (1965), *The process of education*, Cambridge, MA: Harvard University Press, cited in Horne, C., (2007), Drama, The Imagination and the Design Process, TENZ Conference Papers, New Zealand. Retrieved April 15, 2010 from: <http://www.tenz.org.nz/2007/2007-conference-papers.ht>

- Bruner, J. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press. In Mello, R. (1997). "Creating pictures in my mind": A qualitative study of children's responses to storytelling in the classroom. *The Primer*, 26(1), 4-11. Retrieved March 10, 2010
- Buscher, M., Eriksen, M.A., Kristensen, J.F., Mogensen, P.H., (2004), *Ways of Grounding Imagination*, In Proceedings the 8th conference on Participatory Design: Artful Integration: Interweaving media, materials and practices – Vol 1, 193-203, doi>10.1145/1011870.1011893.
- Carroll, J., & Tobin, D. (2003), *Acting Out the Future: A Process for Envisionment*. ECIS 2003 Proceedings. Paper 51, Retrieved April 10, 2010 from <http://aisel.aisnet.org/ecis2003/51>
- Chapman, J. & Grant, N., (2007), *Designers, Visionaries & Other Stories A collection of sustainable design essays*, London: Earthscan.
- Chatman, S., (1990). *Coming to Terms: The Rhetoric of Narrative in Fiction and Film*. Ithaca: Cornell UP. as cited in Manfred, J. (2005). *Narratology: A Guide to the Theory of Narrative*. English Department: University of Cologne.
- Cremin, T., Burnard P., & Craft, A. (2006), Pedagogy and possibility thinking in the early years, *Thinking Skills and Creativity*, 1(2),108-119, In Kangas, M., (2009), Creative and playful learning: Learning through game co-creation and games in a playful learning environment, *Thinking skills and Creativity*, 5(1). 1-15
- Dahl, D. (1998), *The Use of Visual Mental Imagery in New Product Design*, (Doctoral Thesis, Vancouver, Canada: The University of British Columbia,). Retrieved from https://circle.ubc.ca/bitstream/id/23424/ubc_1998-345467.pdf
- Dator, J. (1993), From Future Workshops to Envisioning Alternative Futures, *Futures Research Quarterly*, In Carrol, J., & Tobin, D., (2003), "Acting Out the Future: A Process for Envisionment" . *ECIS 2003 Proceedings*. Paper 51, Retrieved March 10, 2010, from <http://aisel.aisnet.org/ecis2003/51>
- Dewey, J., (1987), *Art as experience*. Carbondale, IL: Southern Illinois University Press. Cited in Young, J.J., Annisette, M., (2009), Cultivating imagination: Ethics, education and literature, *Critical perspectives on Accounting*, Vol. 20, 93-109.
- Diekelmann, N.L., (2001), Narrative pedagogy: Heideggerian hermeneutical analyses of livid experiences of students, teachers, and clinicians. *Advances in Nursing Science*, 23(3), 53-71, In Ironside,P.M. (2003), *New pedagogies for Teaching Thinking: The Livid Experiences of Students and Teachers Enacting Narrative Pedagogy*. *Journal of NursingEducation*, 42(11). 510-511
- Dorst, K., & Cross, N., (2001) Creativity in the Design Process: Co-evolution of problem-solution, *Design Studies*, 22 (5). 425-437.
- Duch, W. (2007), Intuition, insight, imagination and creativity. *IEEE Computational Intelligence Magazine*, 2(3), 40-52.
- Dulloo, D., (2008) *Imagining The Unknown*, Educating for a Creative Revolution, Harvard. p.3. Retrieved November 8, 2009 from: [http://isites.harvard.edu/fs/docs/icb.topics451787.files/Dulloo Imagining%20Unknown-Educating%20for%20for%20a%20Creative%20Revolution.pdf](http://isites.harvard.edu/fs/docs/icb.topics451787.files/Dulloo%20Imagining%20Unknown-Educating%20for%20for%20a%20Creative%20Revolution.pdf).

- Egan, K. (1997). *The educated mind: How cognitive tools shape our understanding*. Chicago, IL: Chicago University Press.
- Eisenstein, E L., (1985) On the Printing Press as an agent of change, Ed., Literacy, Language, and learning, The nature and consequences of reading and writing, Olson, D.R., Torrance, N, Hildyard, A.(ed), Chapter 2, 19-33, New York: Cambridge University Press,
- Erickson, T. (1996). Design as storytelling. *Interactions*, 3(4), 30-35.
- Fischer, W.R. (1987). *Human communication as a narration: Toward a philosophy of reason, value, and action*. Columbia, SC: University of South Carolina Press.
- Fish., R. (2006), *What kind of narrative for what kind of future? Designing unaccomplished space-time. The Rural Citizen: Governance, Culture and Wellbeing in the 21st Century*, Compilation, 2-3, United Kingdom, University of Plymouth,
- Fritsch, J., Judice, A., Soini, K., & Tretten, P.,(2007) 'Storytelling and Repetitive Narratives for Design Empathy: Case Suomenlinna', Design Inquiries Conference, Nordes, Stockholm.
- Gallas, K., (2001) "Look, Karen, I'm running like Jell-O": imagination as a question, a topic, a tool for literacy research and learning. *Research in the teaching of English*, 35, 457-492 cited in Brill, F., (2004), Thinking outside the box: imagination and empathy beyond story writing, *Literacy*, Oxford. UK and LA: Blackwell Publishing Ltd.
- Gaver, W.W., Beaver, J. & Benford, S., (2003) Ambiguity as a Resource for Design, *CHI*, 5(1) 233-240.
- Heskett, J., (2002), *Design. A very Short Introduction*, Oxford, UK: Oxford University Press,
- Horne, C., (2007), Drama, The Imagination and the Design Process, *TENZ Conference Proceedings*, New Zealand. p.116. Retrieved on May 5, 2010 from: <http://www.tenz.org.nz/2007/2007-conference-papers.htm>
- Hough, L.(2007),(ed) "Einstein May Never Have Used Flashcards, but he Probably Built Forts.". *The Magazine of the Harvard Graduate School of Education*. 50(3). 25-27.
- Iannone, R., (2001).Imagination: The missing link in curriculum and teaching." *Education*, 122(2), 307-309.
- Ironside, P.M. (2003), New pedagogies for Teaching Thinking: The Livid Experiences of Students and Teachers Enacting Narrative Pedagogy. *Journal of Nursing Education*, 42(11), 510-511
- Johnson, S. (1751), Rambler, No. 125, p. 28, reprinted in full in Johnson, S., Murphy, A.(1825), *The Works of Samuel Johnson, The Rambler*, Vol 3, p.93, Oxford: Talboys and Wheeler.
- Kangas, M., (2009), Creative and playful learning: Learning through game co-creation and games in a playful learning environment, *Thinking skills and Creativity*, 5(1), 1-15
- Kearney, R.,(1988) *The Wake of Imagination*, London: Hutchinson Education.

- Livo, N.J. & Rietz, S.A. (1986). *Storytelling: Process & Practice*. Littleton, CO: Libraries Unlimited, Inc., In Thesis: *Storytelling: Pathway To Literacy*, Reilly R. E., (2007), A Project Submitted to the Faculty of The Evergreen State College In Partial Fulfilment of the Requirements for the degree, Master in Teaching.
- Manfred, J., (2005) *Narratology: A Guide to the theory of narrative*. Cologne, Germany: University of Cologne.
- McNeil, L.D., (1996), Homo Inventans: The Evolution of Narrativity. *Language and Communication*. 16(4), 331-360, In Newman, K., (2005), The case for the Narrative Brain, *Proceedings of the second Australasian Conference on Interactive Entertainment*, Sydney, Australia.
- Mellon, N., (1992), How to Nurture Storytelling, Boston, p.3, available at: Retrieved April 12, 2010, from www.waldorflibrary.org/Journal_Articles/GW3203.pdf, Reprinted from: Mellon, N.(1992) *Story-telling and the Art of Imagination*, Rockport, MA: Element.
- Moggridge, B., (2007), *Designing Interactions*, Cambridge, MA: MIT Press.
- Newman, K., (2005), The case for the Narrative Brain, *Proceedings of the second Australasian Conference on Interactive Entertainment*, Sydney, Australia.
- Paxman, D. B. (2003) *Voyage into language: space and the linguistic encounter, 1500-1800*, Surrey, UK: Ashgate Publishing.
- Pellowski, A. (1990). *The World of Storytelling*, expanded and rev. ed. Bronx, NY: H. W. Wilson. In "Storytelling." (2008). *International Encyclopedia of the Social Sciences*. Retrieved May 02, 2010 from Encyclopedia.com: <http://www.encyclopedia.com/doc/1G2-3045302629.html>
- Polkinghorne, D.E., (1988), *Narrative Knowing and the Human Sciences*, New York: State University of New York Press.
- Ricoeur, P. (1984). *Time and Narrative Vol. 1*, trans. by McLaughlin, K., & Pellaver, D., Chicago & London,: University of Chicago Press.
- Ross, R., (1980) *Storyteller*, Ohio, U.S: Columbus.
- Salen, K., & Zimmerman, E., (2004) *Rules of Play: Game Design Fundamentals*, London: MIT Press. In Triantafyllakos, G., Palaigeorgiou, G., Tsoukalas, I., (2008), *Collaborative Design as Narrative*, Department of Informatics, Aristotle University of Thessaloniki, Greece.
- Sartre, J.P. (1940), *The Psychology of Imagination*, L'imaginaire: Psychologie phénoménologique de l'imagination, Gallimard, 1940, translation published as *The Psychology of Imagination*, Philosophical Library, 1948. Retrieved April 15, 2010 from: <http://plato.stanford.edu/entries/sartre>.
- Schank, R. C. (1995) *Tell Me A Story: Narrative as Intelligence*, Evanston, Illinois: Northwestern University Press.
- Shreeve, A., (2011) The Way We Were? Signature pedagogies under threat. In Bohemia, E., Borja de Mozota, B., & Collina, L., (Eds.), *Researching Design Education, 1st International Symposium for Design Education Researchers*, (pp. 112-125) Cumulus Association//DRS, Paris, France.

- Sikes, P., Gale, K., (2006), *Narrative Approaches to Education Research*, Faculty of Education, University of Plymouth, retrieved April 15, 2010 from <http://www.edu.plymouth.ac.uk/resined/narrative/narrativehome.htm>
- Sparke, P., (2004), *An introduction to design and culture: 1900 to present*, New York: Routledge.
- Storytelling (2010), Quote from online promotion for: Workshop Promotion, October 6 - 10, 2010, *Learn the Proven Storytelling Secrets of Master Communicators*, Marylhurst University, Portland, Oregon. Retrieved on April 15, 2010, from <http://www.nlporegon.com/storytelling.html>
- Triantafyllakos, G., Palaigeorgiou, G., Tsoukalas, I.A., (2008). Collaborative design as narrative. In: Proceedings of the 10th Participatory Design Conference (Bloomington, Indiana, USA, 1-4 October 2008). PDC'08. The Trustees of Indiana University, 210-213.
- Trowbridge, B., (2007), Imagination vs. knowledge, Helium.com, Retrieved on March 6, 2010, from <http://www.helium.com/items/1337924-imagination-vs-knowledge>.
- Turner, M., (1996), *The Literary Mind*, New York: Oxford University Press, (p 7). Cited in Paxman, D. B. (2003), *Voyage into language: space and the linguistic encounter, 1500-1800*, Surrey, U.K: Ashgate Publishing.
- Tversky B., and Lee, P.U. (1998), How Space Structures Language, In Freksa, C., Habel, C., and Wender, K.F., (eds.), *Spatial Cognition, An interdisciplinary approach to representing and processing spatial knowledge*, 157-175. Berlin/Heidelberg: Springer.
- White, H. (1981). The value of narrativity in the representation of reality. In Mitchell, W.J.T. (eds.), *On Narrative*, 1-24, Chicago: University of Chicago Press.
- Wright, J., (2009), *Toddlers and Young Children-Storytelling Builds Imagination*, Retrieved from <http://www.askauntieartichoke.com/posts/toddlers-and-young-children-storytelling-builds-imagination>.
- Young, J.J., Annisette, M., (2009), Cultivating imagination: Ethics, education and literature, *Critical perspectives on Accounting*, Vol. 20, 93-109.