

An 'Evolutionary' Case for Storytelling

By Storybag

As a partner with a background in socio-ethology of behaviour and communication and with a growing interest and knowledge as to the applicability of storytelling and narrative approaches to different areas of education it seemed logical that our contribution would be more in these fields. We are consultants, not practising teachers. However, we are also parents who care for the education of the following generations and the quality of education. This article tries to tie an evolutionary view on storytelling to the current state of affairs. In our view some recent insights and challenging suggestions by researchers can lead to innovation in in early education. Reintroducing working with stories could be just that.

We live in an ever- and faster changing society and this has unequivocally an influence on education. The consequences of (im)migration for social inclusion, the growing influence and impact of (social) media, the firm belief of some in (individualized and individualizing) digital education (tools), are a few of the developments, or should we say trends, that may lead us a away from a solid educational (and social) base at an early age.

There are some convincing arguments why storytelling, or better working and teaching with stories, should return to the classroom and to (early) education and why teachers should become storytellers again and not be limited to facilitate information finding.

Children in Kindergarten (age 3+) and primary school are in the early phases of their



physical, social and cognitive development and hence sensible and receptive to stimuli and learning in these areas. They are not empty slates but already equipped with innate skills that stem from a long history of (social) evolution. Digital education at an early age might a necessary *additional* approach, but when it comes to social and critical development it falls short and can even impair young children in that development.

We would like to present some of the most important arguments and their consequences for using stories and practice storytelling in early education:

1. Storytelling and social and cognitive development

In his ground breaking book 'On the origin of stories' (evolution, cognition and fiction), Brian Boyd (2009) suggests how storytelling and fiction became an indispensable and typically human adaptive quality during evolution. He distinguishes roughly four steps: play, (meaningful) information, art and language. In their own way, other authors endorse similar criteria.

Play

Play is a behaviour widespread across animal classes (e.g. mammals and birds). Play evolved through the advantages of flexibility; the amount of play in a species correlates with its flexibility of action. Behaviours like escape and pursuit, attack and defence, and social give-and-take can make life-or-death differences. These contribute to the development and strengthening of neural pathways, they stimulate recognition and assessment of context and thus anticipation and flexibility in acting. Creatures with more motivation to practice such behaviours can fare better in moments of high urgency. Play is therefore highly rewarding. Gottschall (2012) stresses that play helps youngsters rehearse for adult life: children who play train their bodies and brains for "the challenges of adulthood – they are building social and emotional intelligence (note: empathy, generosity, respect, gender differences etc.) ... Play is the work of children."

Information

In an environment that provides myriad of data, we try to extract **information**, especially information that falls into meaningful arrays from which we can make inferences: we call



these patterns.

We actively pursue patterns, especially those that return the richest inferences to our minds, to our senses of sight and sound, and in our most crucial domain, social information (Boyd, 2009). Why are things beautiful or frightening? An example: when we look at the starry sky we will quickly see structures (e.g. constellations) and assign meaning to them (e.g. Big Dipper, Orion). Ripples in a pond reveal patterns, repetition and rhythm. Why are we so fascinated by that and why do we have this need to structure, categorize, describe or visualize that if it was not rewarding? Information *retention* (from memory), important for e.g. contextual understanding and problem solving, relies on structure, patterns and rhythm as well, as we will see further on. There are authors who promote storytelling as an important tool for memory training and also as a basis for comprehensive reading (Orlando, 2006).

Art

From the moment we were able to use instruments we were able to draw. Structures, patterns became symbols, illustrations (e.g. cave paintings) and from that works of art developed. Boyd (2009): “A work of art acts like a play (and training) ground for the mind. Like play, it succeeds by engaging and rewarding attention, since the more frequent and intense our response, the more powerful the neural consequences.” Art appeals to our preferences for patterns. We eagerly expose ourselves to high concentrations of information that over time we strengthen the neural pathways that process key patterns in open-ended ways. It makes us confident that we can transform the world to suit to our own preferences, we can even modify it in ways we choose to show the world: we have become able to think and visualize abstract. Boyd: “Art supplies skills and models we can refine and recombine to ensure our cumulative creativity...”

Language and Story

It all comes together when we look at stories. There was a time when we developed a language to name and describe the world to ourselves and others. “Writing is much younger than cave painting,” says Boyd, “but (fictional) storytelling is much older, and a



human universal.” An example from Bruce Chatwin’s book ‘The songlines’ (1987): the Aboriginal forefathers created their world by giving names to everything they encountered. Each forefather walked his own ‘dreaming track’, his creation story, and by that their world (the Australian continent) became ‘real’.

The anticipation and flexibility in thinking, the social give-and-take, the understanding of cause and effect, the recognition of structure and patterns, the understanding of context, the attractive function of art: our stories - and even more so, fictional stories - are a cognitive playground as well (Boyd, 2009). We love to play with possibilities and find solutions. This is why stories are engaging and also entertaining. We need this ‘play’ to give meaning and sense, to identify and empathise with the protagonists, but also to learn, to teach and to transfer information and knowledge. It has become a functional part of our nature, without it we would be less able to adapt to changes, in our environment and in ourselves. We are the ‘storytelling animal’ (Gottschall, 2012).

2. Storytelling and social and critical literacy

Plato, Aristotle and other great teachers and founders of the humanities and empirical approaches already investigated the outer and inner world and often explained it by using stories. They also believed in the power of the spoken word, and preferred it to writing down. The spoken word invites to listening, ignites imagination and creates room for dialogue and questioning and thus meaningful conversations and insights.

Looking at the current state, society ought to benefit from raising critical citizens, the basis for true democracy and self-confident, sustainable and righteous communities. Martha Nussbaum (2010) points at “the ability to think critically; the ability to transcend local loyalties and to approach world problems as a ‘citizen of the world’; and, finally, the ability to imagine sympathetically the predicament of another person.” In short, one of the objectives of education should be to create and to foster social and critical literacy.

Social literacy is more than the ability to read and write, and more than mastering (operational) literacy skills. In fact - like critical literacy - it could be seen a necessary stepping-stone to operational literacy (comprehensive reading and writing). Sharing



stories and reflecting on stories leads to social interaction (e.g. mutual respect) between children and their peers and/or adults in and outside school. It leads to better listening skills, social cognition and emotional intelligence, but also conceptual and contextual learning.

As to critical literacy, sharing stories and discussing them also leads to the discovery and development of critical consciousness and reflection. Critical literacy is about asking questions about texts (and thus also stories). For those interested in the onset of critical literacy: critical literacy practices grew out of the social justice pedagogy of Brazilian educator and theorist Paulo Freire (1968) who promoted questioning power relations, discourses and identities “in a world not yet finished”.

3. Storytelling, information retention and the ‘grammar’ of story

Child psychologist Peter C. Orlando (2006) promoted storytelling as a tool for memory training and also advertises it as a basis for comprehensive reading. We also mentioned that contextual understanding and problem solving, relies on structure, patterns and rhythm are important for information *retention* (from memory). Storytelling uses all these elements and more; it adds repetition, Q&A, elements of surprise, identification with protagonists, strategies for problem solving and learning experiences, all of those add up to storing and retaining information and - in the end - accessible knowledge.

From the neuro-scientific point of view there is one important part of our brain responsible for storing and retrieving information: it is called the hippocampus, a relatively small part of our brain but of essential importance for the functioning of the whole brain, especially when it comes to information- and knowledge storing and - retrieving. Spitzer (2013) explains that the hippocampus is continuously at work, creating connections and links of within events or experiences (e.g. time, place, emotion). When we look at it, the latter is exactly what happens when we listen to stories.

One of the important phenomena Spitzer points at is that we more and more store – or even worse, copy/paste - all our information in documents on our laptops and tablets and



not in our brains anymore, all of which makes the hippocampus unemployed and thus shrinking. The consequence is that our long-term memory and the retrieval of information and knowledge from our own 'hard disk' (our 'cognitive reserve') deteriorate. In cognitive terms, no laptop can compete with the refinement and the speed of a well functioning brain yet. Moreover, our memories are not only linked to facts, they are also linked to emotions and sensory information linked to events like setting, smell and sound, which makes retrieval also quicker and more context related.

Spitzer does not reject the use of digital tools and media, they are undeniably a part of our daily life, he simply warns us not to overestimate their value in all fields of education all the time in the sense of cognitive and behavioural development. As to the latter, he also stresses the social consequences of less personal contacts, less reflection, less social and critical literacy as described above. Children who work on tablets or laptops are prone to distraction and 'surfing', chatting about digital learning material results in lesser retention than when exchanging it in physical groups with two or three peers (Spitzer, 2013).

In a challenging essay on the 'grammar of story' De Beaugrande (1982/2005) suggests that the classical structure of the folk story (setting – theme – plot/change – resolution) is 'in our genes' and already present at an early age. He describes research where children around the age of five – when told a story in the wrong order – retold the story in the right order, which again suggests that we have evolved to be 'storytelling animals', who understand the context and the 'direction' of a story – already implying comprehension.

Depriving children of stories at an early stage of development could lead to under-stimulation of already existing abilities, resulting in poor social and cognitive performance at a later age.

4. The storytelling teacher

Professional storytellers who work with children and adults will stress that storytelling is neither reading (a story) nor is it acting (a story). The same story can be told in myriad different ways, depending on the (age of the) audience, the time, the place, the intention.



Storytelling is an intentional dialogue, “the intentional sharing of a story through words and actions for the benefit of both the listener and the teller” (Buvala 2009).

In fact, every story we tell has an intention: to entertain, to engage, to connect, to elicit emotions, to impress or... to teach, by employing entertainment, engagement, connection and – why not – elements of surprise.

The dialogue (between the teacher/teller and his or her audience) is the most important aspect: it means facilitating to ask questions and/or encourage reflection on the story, which can often be a ‘lesson’, a learning experience. By this the classroom is not a theatre with a performer and a one-way communication but a storytelling space where teacher and pupils engage in exploring a story together.

De Beaugrande (1982/2005) points at storytelling as a mode of social and cultural interaction and at the ‘interest factor’ of a story. Interest is generated by: uncertainty, unexpected events, understandable goals by the protagonist, turning point (will the goal be attainable (victory) or unattainable (loss, death), identifying with the protagonist’s problem, creativity (the use of metaphor, caricature, tragedy, surprise (against expectations) and discontinuity (interrupted by ‘irrelevant’ episode or story in story). All elements worth inspecting when reflecting on a story together, not in the least because they are adding to the fun of telling and listening to a story.

Social development

Evolutionary psychologist Steven Pinker (1997) confirms that we are ‘hardwired’ for narrative. He also argues that stories are essential to human learning and building relationships in social groups. The neurological roots of both storytelling and enjoyment of stories are tied to our social cognition. Spitzer (2013) suggests that depriving children at an early age from direct social contact and putting them behind digital hardware will lead to severe attention deficits (and later to reading deficit) and above that to social isolation. As much as the big digital suppliers and social media want us to believe that children and youngsters are busy in social networks, these social networks prove to lead



to more social isolation and shallow contacts. Positive social emotions are rather experienced with personal friends (Spitzer, 2013).

Language development

In another publication Pinker (2007) suggests that three-year-old toddlers are grammatical geniuses - masters of most constructions, obeying adult rules of language. The explanation for this miracle is that language could be an evolutionary adaptation that is partly 'hard-wired' into the brain and partly learned.

Storyteller laureate Katrice Horsley who has a long experience in working with young children suggests that the main predictor of later social and emotional success links to vocabulary of the formation years, independent of social background. Research has shown that poor language by the age of six can lead to a reading deficit (text comprehension) of five years at the age of sixteen.

Working with stories, retelling stories of others can not only increase contextual understanding but also enrich vocabulary, e.g. when hearing synonyms used by others.

The element of play revisited

In a recent workshop (2014) Katrice Horsley pointed at another aspect of learning: learner types. It seems that 73% of the population are visual and/or audio learners and about 38% are tactile and/or kinaesthetic learners. When working (on stories) with them, questions about the story could differ and/or elicit different responses. For example, a question to a visual learner would be "How did/does it look to you?" (draw), an audio learner "How did/does it sound?" (talk/sing), a tactile learner "How did/does it feel?" (touch/ use material) and for a kinaesthetic learner "Hold on to..." (body movement = access to language).

As teachers do not work with homogenous groups, she suggests that teachers have different materials ready when working with stories, e.g. posters, crayons, paper, objects, cloth, instruments, things. Readers will find a lot of activities and exercises with those in



this education pack.

Conclusion

From an evolutionary perspective, humans are the 'storytelling animals'. Storytelling has its origins in adaptive traits as play, information processing and retention, pattern and structure recognition, art, and language acquisition. Adaptations enhance the fitness and survival of individuals and in our case also whole communities. As any adaptive trait, storytelling has contributed to our 'plasticity' and helped us to face environmental, social and societal challenges.

We live in a more and more digitalised world that invites us to entrust and store information and knowledge to digital tools. Neuroscience warns us that we might lose our neural ability to store and readily retrieve combined, specific and tacit knowledge from our brains. Even more so, because memory is also linked to emotions and the other senses like smell and auditory impressions and thus more precise, context orientated and richer. An ability that has been nurtured by our storytelling qualities and which cannot be replaced by a computer. ICT has evolved considerably ('big data') but has not gone through the whole process of human evolution.

By making teachers competent storytellers and reintroducing storytelling in the classroom we can make use of already innate and present traits and qualities, with emphasis on play, art and language development. Through engaging children in 'fun' activities, dialogue and reflection, working with stories will contribute considerably to their social and cognitive development. It will lead to 'social literacy' (e.g. respect, empathy, ethics) and critical literacy (e.g. ability to question and think critically) and make them competent and above all (self) confident learners and citizens.

