

Imagination as a transformative tool in primary school education

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ABSTRACT. This paper argues for the use of imagination in the teaching of all primary school subjects, as a way to engage students' attention and interest in learning. It reviews the perspectives of two educationists, Kieran Egan, currently professor of education at Simon Fraser University, Burnaby B.C., Canada, and Dr. Rudolf Steiner (1861 – 1925), founder of the Waldorf Schools, now spread over many countries of the world. Both perspectives show how imaginative teaching engages the 'whole child' in the process of learning. They argue that imagination is a heightened form of cognition that enhances the experience of truth, and not a 'frill' that has no value. Both perspectives claim that children between the ages of about 5 to 14 years learn best through the imagination, as this is their natural and strongest mode of engaging with knowledge. The paper draws implications for educational practice and provides some examples of imaginative lesson material. Finally, conclusions are drawn to outline the changes needed in primary education as it is generally practised today.

Keywords: Imagination, education, child development

ZUSAMMENFASSUNG. Der Beitrag erkundet die Bedeutung der Imagination für die Unterrichtspraxis in der Grundschule. Dazu werden die Sichtweisen von zwei Pädagogen entfaltet: Kieran Egan und Rudolf Steiner. Beide Perspektiven zeigen auf, wie eine imaginative Pädagogik das "ganze Kind" in den Lernprozess einbezieht. Egan und Steiner sind der Auffassung, dass imaginatives Denken eine höhere, das Wahrheitserleben verstärkende Form der Erkenntnis ist und durchaus kein überflüssiges "Zierwerk". Beide stellen dar, dass Kinder im Alter von 5 bis 14 Jahren am Besten durch und mit Imagination lernen, da sie eine ihnen angeborene Kraft und die beste Methode sei, Erkenntnis zu erlangen. Der Beitrag zieht Folgerungen für die pädagogische Praxis und stellt einige Beispiele für imaginatives Unterrichtsmaterial vor. Abschließende Betrachtungen beziehen sich auf notwendige Änderungen der heute verbreiteten Grundschulpraxis.

Schlüsselwörter: Imagination, Pädagogik, Entwicklung des Kindes

Introduction

Education, as it is generally practised in schools today, is at a crossroads. The modes of learning teachers are asked to employ often fail to inspire students to *want* to learn. Two theorists, Kieran Egan (Professor of Education at Simon Fraser University, Burnaby B.C., Canada) and Rudolf Steiner (1861-1925), separated by three-quarters of a century and probably from very different world-views, maintain that for children to be motivated to learn, they need to *connect* with the subject material in a way that is possible at their stage of development, that is, by means of the imagination. They argue that when teachers appeal to the imagination in their lessons, learners become engrossed in the subject matter and willingly participate in a learning process.

Both Egan and Steiner argue that imagination is a heightened form of cognition, capable of transforming the knowledge and skills to be learned into enhanced experiences. These experiences stimulate creativity in thinking and involve the emotions of the learners, through which a more meaningful relationship is established with the learning material.

In this paper,

- I will analyse the conceptions of the role of imagination in education of two theorists, Kieran Egan and Rudolf Steiner.
- This analysis will then lead to identifying significant differences and agreements in these conceptions.

- Thereafter I will attempt a synthesis of their approaches in terms of pedagogical implications, providing some examples from pedagogical practice.
- Finally, I will draw conclusions from the above journey, and consider its implications for educational theory and practice in a contemporary world.

The scope of this article will be limited to the education of primary school children, with some reference to the pre-school ages, outlining over-arching principles rather than the specifics of teaching. This article will also be limited to the use of imagination in the teaching of subject material; the role of the arts in school programmes, as important as it is in developing the imagination and therefore enhancing and extending cognitive development (see for example Eisner, 2002), is too vast to be included in a short paper such as this.

As this article sets out to review two theories of the imagination, an evaluation of the respective worth and merits of each theory is beyond the scope of this paper, and will therefore not be attempted.

Defining imagination

'Imagination' seems to be a complex term that is difficult to define. Sharon Bailin (2007, p. 102) warns that "[i]t is virtually impossible to provide one unambiguous and uncontested definition for imagination." Nevertheless, an attempt to describe the term, for the purposes of this article, needs to be made. Egan (2005, p. 220) defines imagination as "the ability to think of things as possible – the source of flexibility and originality in human thinking."

Steiner (1996, p. 55-57) describes imagination as emerging from perception by means of the senses, causing an active thinking process to create what he terms 'living pictures' in the mind of the observer. These 'living pictures' are flexible perceptions, able to expand and be refined as and when further experiences present themselves.

To elaborate the above, the following can be drawn from both Egan (1986, 1997, 2005, 2007) and Steiner (1954, 1964, 1968, 1996a, 1996b):

Imagination is the ability to picture something in the mind that bears a relationship to a phenomenon from the physical world or other human experience such as the psychological, mythical, spiritual or philosophical.

All human endeavours to understand the universe and our lives require the activity of the imagination, a process of thinking in which we create images that 'picture' the phenomena that confront us.

Imagination is able to go beyond the limitations of physical objects, stereotyped thinking, literal concepts, and is open to exploring associations, the development of ideas, broader formulations of concepts, perceiving deeper and richer meanings, creating original artefacts and probably a host of other activities that constitute human endeavour. (Summary by author)

Both theorists argue that imagination is the basis of all human development, and that therefore its role in education is vital if human potential is to be nurtured for individual and the collective good.

Kieran Egan's conception of imagination in education

Kieran Egan is playing a leading role in an ever-growing number of academics and researchers that maintain that imagination, in its respective forms, is *the* essential component that can enhance teaching and learning in schools world-wide. Egan's books on imagination in education are unique in that they outline an innovative and well-framed understanding of imagination that makes it possible to apply it for all the different developmental ages of childhood and beyond.

Egan (1997, p. 26-31) bases his conception of the imagination on a combination of two theories: the nineteenth-century theory of recapitulation and Vygotsky's theory of culturally mediating intellectual tools.

The recapitulation theory maintained that the order in which human civilisation mastered various kinds of knowledge is also the order in which children learn their knowledge in continuing degrees of sophistication. It was hoped that this theory would be "a way of ordering the curriculum that corresponded with the way knowledge logically developed and/or with nature's own scheme of human development" and that by laying out this logical path "the mind of the developing child can follow with maximum ease and a guarantee of finishing up at the peak of human understanding" (Egan, 1997, p. 27-28).

Egan (1997, p. 28) argues that, in its time, this theory failed because it was unable to explain *how* and *why* children should recapitulate the stages of acquiring knowledge in the same order that humankind developed these abilities.

However, Lev Vygotsky's theory of socially mediated intellectual tools provided Egan (1997, p. 29-30) with the means to

resolve this difficulty. Vygotsky maintained that intellectual development is due to the child gradually internalising the cultural 'tools' used by the society in which it lives. These 'tools' generate different kinds of understanding - the more sophisticated the tools that are acquired, the more the sense that growing children can make of the world will be enhanced.

The nineteenth-century recapitulation theories focussed their attention on the *actual knowledge* generated by cultural history, instead of on the *cognitive abilities* that were developed in the unfolding of different phases of our history. Egan (1997, p. 30) therefore argues that children recapitulate the *cognitive tools* of their cultural background in the same order in which these tools were developed in human history up to the present day.

On this basis, Egan (1997, p. 30) builds an educational theory in terms of a sequence of cognitive tools that children acquire in their development, bringing about kinds of understanding that accumulate as they grow up. Egan limits the cognitive tools developed to those that arise from the different uses of language in the history of western civilisation, making the point that at every stage new cognitive tools provide new possibilities in cultural development:

I want to consider degrees of culturally accumulated complexity in language, beginning with oral language, then moving to literacy, then to the development of systematic, abstract, theoretic, linguistic forms, and finally to habitual highly reflexive uses of language. Each of these degrees of sophistication in language development restructures the kind of sense their users make of the world. (Egan, 1997, p. 30)

Egan (IERG, 2008) proposes five forms of understanding, which can be summarised as follows:

- Somatic – pre-linguistic understanding gained through the senses of the body; from birth, experiences of the body build understanding of the surroundings and the child's self, tied up with the emotions that are attached to these experiences.
- Mythic – understanding is now broadened through the development of oral language; discussion generates knowledge and allows for representation and understanding of themes, even those not experienced in person. Mythology and mythic ways of thinking characterise oral cultures; young children's minds reflect these characteristics.
- Romantic – understanding enabled through the development of written language; this results in a realisation of independence and separateness from an increasingly complex world; at the same time, it provides the ability to make sense of the world in human terms. Heroes who overcome their challenges appeal strongly to children in the literate stage.
- Philosophic – the development of a systematic understanding of the world, emerging during the teenage years; the ability to see the connections between things, brings the discovery of laws and theories that make sense of the world in new ways.
- Ironic – the realisation that there are limits to systematic thinking, which cannot explain the world adequately, emerges; an awareness of historical and cultural influences on understanding brings reflexivity and freedom from conventional thinking.

Egan regards the modern mind as a composite of the above forms of understanding, and that education needs to facilitate the development of each form as fully as possible "in the sequence in which each developed historically" (1997, p. 4).

[I]magination lies at the core of developing these forms of understanding," each of which employs a variety of "cognitive tools" which become available to children as they grow up, stimulated (or not) by the society that surrounds them. These cognitive tools "can be seen as organs of the imagination. (IERG, 2011)

This imaginative approach to education aims to maximise for students the array of important cultural tools that they each convert into their own cognitive tools ... particular tools ... I consider of crucial educational importance and crucial to the stimulation and development of imagination. (Egan, 2005, p. 8)

Mythic understanding

Egan (1997, p. 33) maintains that "during the mid-Pleistocene era, evolutionary changes in the brain and in the larynx, pharynx, and jaw of our ancestors led to the development of language. An apparently universal consequence of elaborated language development was myth." He describes the characteristics of mythic understanding, as found both in traditional oral societies and in the development of language usage in children "between the ages of two and three until about six, seven or eight" (Egan 1997, p. 36-37) through the various types of cognitive tools that make up this kind of understanding:

- **Thinking in terms of binary opposites** (e.g. good and evil, hot and cold)

Egan (1997, p. 40) states that in oral communication, humans organise their conceptual understanding of the world by forming opposites, to bring "otherwise bewilderingly complex phenomena ... under some kind of conceptual control." Young minds do this universally, from which they can "mediate" the opposites, as in, for example, between hot and cold lie warm and cool.

Binary opposites play an important role, as children not only use them and their mediations in terms of the physical world, but also in terms of emotional experiences such as “love and hate, fear and security, oppression and freedom.” Egan challenges the idea that young children are ‘concrete’ thinkers, arguing that “[t]hey have imaginative experience as well as basic pragmatic experience” and therefore are also rich ‘abstract’ thinkers (1997, p. 44). Abstract binary opposites can be found abundantly in the traditional stories of cultures from all over the world. Basic to many of these stories is that “good” will always overcome “evil.”

Egan (1997, p. 44) argues that these imaginative opposites which are so prevalent in young minds are largely ignored in education, whereas they are a feature that could relatively easily be used to make curriculum content “engaging and meaningful to children”.

- **Fantasy**

Young minds are delighted by fantasy. Mythical stories, which “dislocate” one from everyday life, tell of lives in imaginary realms, where magical events can take place. The fact that fantasy engages young and old alike, leads Egan to suggest that it is “somehow tied up with profound features of our mental lives.” (1997, p. 44-45)

In physical reality we can readily find mediating qualities, such as between wet and dry one finds damp. Fantasy can be seen as deploying natural entities to which cultural characteristics are added, such as in the story of Peter Rabbit, where a natural creature is endowed with human speech and clothing. This, argues Egan, arises out of the binary opposites of human/animal, but as in such a case no mediation between human and animal is possible in reality, “Language [...] spins a world of fantasy wherein the technique of conceptual elaboration can play unconfined” (1997, p. 46). Therefore, in cases where there are binary opposites for which no mediation is possible, the human mind adds abstract qualities and associations that bridge natural and cultural worlds, such as Peter Rabbit being “a natural creature with the cultural characteristics of speech and clothing” (1997, p. 46).

- **Abstract thinking**

As intimated above, Egan maintains that the generally accepted belief that children are ‘concrete’ thinkers has led to a serious misunderstanding of children’s minds. An essential part of language development is the forming of abstractions, and children are therefore also ‘abstract’ thinkers; Egan (1997, p. 47-48) suggests that, in fact, concrete objects are only recognised as a result of abstract understanding (that is, as a higher order of thinking within which all concepts have a meaningful place). Abstract understanding is not conscious in young children: they cannot articulate ideas such as “oppression”, for example; but, suggests Egan, they do have an understanding of oppression, perhaps better thought of as on a ‘super-conscious’ level (based on Hayek, 1970).

Educationally, the belief that young children are ‘concrete’ thinkers “has meant shunning content that seems to involve abstractions ... that has made the classroom less intellectually rich than it should be.” Children patently make use of “powerful abstractions,” and therefore have ready access to a wide range of knowledge, as long as this knowledge is presented in the typical binary concepts and abstract ideas that they are familiar with. (Egan 1997, p.50-51)

- **Metaphor**

Metaphor arises from the development of oral language, going beyond the literal naming of objects and events, and thereby extending our use of language. It does so by creating links between the idea under discussion with another, divergent idea, broadening the meaning and impact of the first idea. This “generative power” (Egan 1997, p. 55) of the metaphor expands understanding, and is therefore an important educational tool, that needs to be nurtured in teaching.

Egan (1997, p. 54) quotes a research on the use of metaphors by very young children (Winner, 1988) which found “... the prodigious production of metaphors by some very young children” and that in recognising metaphors the “highest number of appropriate metaphors was secured from the pre-school children ... moreover, these three- and four-year-olds fashioned significantly more appropriate metaphors than did children aged seven or eleven”.

- **Rhythm and Narrative**

In oral cultures, rhythm or rhyme supported the remembering of the lore of a particular tribe or culture, which was often recited to the accompaniment of an instrument. The linguistic patterns created by rhythm and rhyme make them easily remembered. In the same way, young children are captivated by these patterns, are able to remember them through repetition, and become skilled at playing with these devices. (Egan 1997, p. 58)

Narrative takes the rhythms of our lives - the variety of emotions, the patterns of our lives - and casts them into poems and sagas, providing “a powerfully engaging access to knowledge of all kinds.” (Egan 1997, p. 59) This cognitive tool has not

been exploited to educational advantage, in spite of its appeal “to the literate and illiterate alike, to the logico-mathematically sophisticated and unsophisticated.” (idem)

- **Images**

Egan regards images as the mind’s ability to evoke mental pictures of what is not present, experiencing them as if they were real. The images we create carry an affective component, some only minimally, but others are able to embody powerful emotional effects. (1997, p. 60-61)

Educationally, “it requires the teacher to be more consistently conscious of the vivid images that are part of every topic and to draw on them consistently in vivifying knowledge and concepts.”¹ (idem) The use of affective images avoids the tendency to reduce lesson content to its bare bones. Instead, their affective component helps young learners to relate to the lesson content, providing

... a means for the child to ‘incorporate’ it. This helps them to see that mathematics, history, and science are not made up of alien knowledge, something out there apart from them. By imaginatively grasping knowledge, children make it, *reciprocally*, become a part of them. So children discover that they are mathematical, historical, and scientific beings. (1997, p. 62; italics in original)

- **Stories**

Egan writes that the “discovery” of the effectiveness of stories on their hearers is “one of the most momentous in the development of human cultures.” Stories enabled the memorisation - and therefore the continuance - of the tribe’s lore and social structures. The ability of stories to stir the emotions, tying the feelings aroused to the contents of the story, made it the most powerful tool for educating the tribe’s members in their culture of living and knowing. (1997, p. 62-64)

Stories therefore, as the most effective cognitive tool for conveying knowledge in meaningful and memorable ways, could be used to great advantage in education:

Instead of seeing math and science, for example, in terms of particular skills, knowledge and manipulations, we would see them as the greatest of human adventures, full of drama, hopes and disappointments, discoveries and inventions ... by seeing math and science not as disembodied pieces of knowledge or skill but as the inventions and discoveries of particular people, as products of their hopes and disappointments, their struggles and problems, we can begin to re-embed those subjects again in their proper human contexts, in which they initially had affective, as well as purely cognitive, meaning. (Egan 1997, p. 64)

The child that is learning language, continually extending his/her range of experience, responds particularly to stories. Therefore, says Egan, “[t]he most important, dramatic and vivid stories of our world and of human experience can provide an appropriate curriculum for the earliest years” (1997, p. 68). Pre- and primary schoolteachers therefore need to become “the storytellers of our culture,” continuing the age-old tradition of stories told around the fire as the earliest source of education.

- **Humour**

Humour is also regarded as a cognitive tool in language development, in which the meaning of one person’s words can be deliberately or accidentally misinterpreted. Jokes help to increase ever increasing sophistication in language usage. At the simplest level, such as the “Knock-knock! Who’s there? Mickey Mouse’s underwear” type of jokes delight young children because of their rhythmic repetition, and play with words. (Egan, 1997, p. 211)

The development of imaginative thinking, according to Egan, needs the use of the cognitive tools described above. Mythic understanding being pre-literate, and therefore particularly relevant to the pre-school, implies that “young children be encouraged to become fluent and effective users of varied language” (Egan, 1997, p. 68-69).

Romantic understanding

Historically, the development of writing represents a new process of abstraction, accompanied by an early development of rationality. Alphabetic writing gained ascendancy in the Greek culture of the sixth and fifth centuries BCE, providing dramatically new possibilities for writing. This new form of writing caused “a distinctive kind of literate thinking,” in which “writing [...] becomes part of the process of thinking” (Egan, 1997, p. 76).

Egan (1997, p. 72) regards the emergence of literacy, with its early form of rational thinking, as the development of “Romantic understanding.” A similar development can be observed in children after about 5 years of age, when “abstract, ‘objective’ ways of referring to the world” gradually emerge, bringing with it the ability to become literate. However, says Egan, this new development does not displace somatic and mythic understanding, as they continue developing side-by-side, the one building on the other.

1. See the section on some examples of imaginative tools below.

Egan explains his choice of the term ‘Romantic understanding’ for this early form of rationality as follows:²

... between the myths that shape the world to the requirements of mental structures and theories that try to conform with the actual structure of the world, we have romance. Romance deals with reality, but it does so with persisting mythic interests. It is a compromise with, rather than a capitulation to, reality. (1997, p. 86)

Young children do not easily relate to learning that is presented in a rational, theoretic way. They need this kind of learning to be mediated with Mythic elements in order to make it digestible, meaningful and appealing to the intellectual abilities of their age.

Egan (1997, p. 79) maintains that we gain by becoming literate, but we also lose. Children are developing the ability to reason, which brings with it a danger: if the form of education during this time does not continue to nurture Mythic understanding, making a bridge with rationality, coherence, security and meaningfulness will be lost, resulting in a sense of alienation towards learning. The seriousness of this loss cannot be underestimated; as Egan says:

Romantic understanding represents a gradual transition. Students’ forms of thinking gradually accommodate to the shapes of autonomous reality, but they first make sense of reality in “romantic” terms. (Egan 1997, p. 102)

Alienation is a serious phenomenon in modern (and post-modern) society, and one may regard the form of education that is generally applied as a significant contributing factor. This alienation directly affects the results of student achievements in schools:

Much of our failure in mathematical and scientific understanding in schools may stem from the general failure to distinguish Romantic understanding and its distinctive ways of engaging and making rational sense of the world as prerequisite to theoretic thinking. (Egan 1997, p. 97)

Egan (2005, p. 78-81) characterises Romantic understanding as:

- **The sense of reality; the extremes of experience and the limits of reality**

The ancient Greek historian, Herodotus, can be regarded as an early example of a “romantic” writer, as he recounts real happenings and customs from the past, and those of his time, through the telling of vivid stories and anecdotes. Herodotus does not seek to create a full understanding of the events (as one might find in modern history books), but writes to keep his audience spell-bound by describing the amazing, the extraordinary and the great achievements of the world. The result is that “[y]ou are there, a witness to Croesus’s conversations, to Xerxes’ planning, to the great battles themselves.” (Egan, 1997, p. 83-84)

The Histories reads like a compendium of events. It creates interest in a similar way to the *Guinness Book of Records*, which attracts the passion of young minds to find out “who really was the biggest, the smallest, the fastest, the slowest, the hairiest, the oldest, and so on ... to establish the limits of reality and the extremes of experience.” (idem)

Education would do well to use a “romantic” approach to learning, which gradually builds the students’ understanding of the content they need to learn, leading them towards a rational understanding of reality over time. (Egan, 1997, p. 86)

- **Transcendence within reality; association with heroes**

Whatever the age, young people love to hear stories about heroes. At the ‘romantic’ stage of their development, the hero is now a person - no longer a god or other mythical figure - who is able to overcome the constraints of reality. (Egan, 1997, p. 88)

Up to the age of ten, the young still live in an “Eden-like” acceptance of Mythic understanding of their lives. However, around the age of ten, students are facing an “increasingly autonomous reality” and “need to establish some kind of intellectual and psychological security.” Association with heroes who transcend the threats of an overwhelming reality, can provide them some of the security they need at this age. Heroes can embody transcendent qualities, such as “sanctity, compassion, selflessness, elegance, wit, ingenuity, patience ... equally well as testosteronic violence” (Egan, 1997, p. 89-90).

- **Humanised knowledge**

Egan (1997, p. 93) draws an interesting parallel between journalists and teachers:

Journalists and teachers recognize that knowledge can be effectively communicated if it is put into an engaging context for readers or students. Journalists commonly refer to finding “a human interest angle.” Teachers know that an illustrative anecdote, particularly if it is rich in emotional motivation, can have a remarkable effect on engaging interest.

He argues that knowledge needs to be presented in the context of the lives of its discoverers and inventors. If teachers can link the knowledge to be learnt to the emotions that were part of these lives - the hopes and fears, the struggles and suffering

2. Egan uses the term ‘romance’ in its original meaning, as understood in medieval times, as representing reality through the medium of a story.

in their passion to gain understanding of our world - the emotions of students would be touched, so that they “can also *feel* why someone might care about the structure of the universe, the behaviour of insects, the interactions of chemicals, and so on.” (Egan, 1997, p. 92-94)

- **Romantic rationality**

As described already, Romantic rationality is an early form of rationality. It is a development *towards* theoretic thinking, in that romance seeks to describe reality *as it is*, but appeals to the human emotions and intentions that are related to this reality; it appeals to the amazing, exotic, transcendent and extremes inherent in a topic, as well as generating an intense interest in the details of particular events or phenomena. (Egan 1997, p. 254)

Up to the age of about 15 years, young adolescents respond to the use of Romantic intellectual tools. The aim is not to sensationalise learning, but to shape the narratives presented in such a way that affective images, the heroic or wonderful elements bring the material to life. (Egan 1997, p. 254-255).

Romantic rationality is a pre-requisite to the emergence of theoretic thinking. During the years leading up to about age 15, the tools of theoretic thinking need to gradually develop, without losing the wonder, the meaningfulness and the engagement that Romantic learning can bring to its emergence. (Egan 1997, p. 97)

Imagination and the emotions

An important point about the nature of imagination in relation to learning is its connection to emotions. According to Egan (1986, p. 29), we make sense of the world and our own experience in both affective and cognitive ways simultaneously. He argues (Egan 2007, p. 18) that education in the twentieth century has assumed that the intellect and the emotions can be kept separate, and that schooling has regarded itself as responsible for the intellectual part only. This results, according to Egan, in learning becoming of only utilitarian value, destroying much that is valuable in our lives (in the area of Mathematics, he claims, this has been disastrous).

Egan (2007, p. 19) maintains that when we use the imagination, emotions are inevitably involved as they are tied to the imagination in complex ways. Therefore Egan states:

Taking imagination seriously in education directs us to transcend the intellect/emotion split and perceive both together in all areas of knowledge and all aspects of education. (Egan 2007, p. 19)

To illustrate this further, in earlier times stories were told in every culture as a means of education. In analysing the effects of a story on a listener, Egan (2005, p. 10) argues that there are two valuable aspects in using stories in educational practice: first, the information that is communicated is readily remembered (it can be remembered right throughout life), and second, a story can “orient the hearer’s feelings about the information communicated.”

Egan draws the following parallel:

We use stories constantly in our daily lives to give emotional meaning to what would otherwise remain, as it has been eloquently put, ‘just one damn thing after another.’ Stories shape events into emotionally meaningful patterns. (2005, p. 11)

He maintains that, during the 20th Century, the underlying belief that reason and emotion could be separated has had a destructive effect in education. Emotion was thus made subservient, bringing about a “dissipated” type of rationality, devoid of human emotion. He therefore argues that, “[t]aking imagination seriously brings into question the assumptions on which the sidelining of emotions in schooling has been based” (Egan, 2007, p. 18).

Imagination enhances cognition

Egan (1997, p. 101) argues that imagination is not in any way in conflict with the emerging rationality in children’s development, and that its view of reality enhances the understanding of the world. He sums it up as follows:

Imagination ... is not something split off from “the basics” of disciplined thought or rational enquiry, but is the quality that can give them life and meaning. [...] Stimulating the imagination is not an alternative educational activity to be argued for in competition with other claims; it is a prerequisite to making any activity educational. (Egan, 2005, p. 211-212)

Egan describes the imagination as *the* most important element that is needed to transform learning in schools from a too abstracted, “dissipated” approach to a meaningful, human-based approach that will engage children at their respective developmental stages.

He argues that imaginative skills are part and parcel of cognitive activity, and that somatic, mythic and romantic ways of understanding precede systematically rational ways of learning. As each stage builds on the next, he maintains that earlier stages need to be kept alive in succeeding stages for all-rounded development into mature adulthood.

His insistence that imagination overcomes the split between rationality and emotion, and that emotion is the ingredient that brings meaning to every experience, underlines the need for a complete rethink of education as it is generally practised today.

Egan (2007, p. 8) sums up the role of imaginative activity as follows: "Imagination lies at a kind of crux where perception, memory, idea generation, emotion, metaphor, and no doubt other labelled features of our lives intersect and interact."

Rudolf Steiner's conception of imagination in education

Rudolf Steiner (1862 – 1925), Austrian philosopher, scientist and educationist active around the turn of the nineteenth to twentieth century, was the founder of the Waldorf Schools (in some countries referred to as Rudolf Steiner Schools). These schools have been applying his principles of holistic, imaginative and arts-based learning for over nine decades, developing their curricula to the unique needs of the differing contexts and culture in each country. Steiner has left a legacy of numerous stenographed lectures and discussions with teachers that he held in different European cities, which form the basis of his theory of education.

Steiner regarded himself as a researcher of the 'spiritual' nature of the human being, using scientific research methods to explore human experience and development. By 'spiritual,' Steiner refers to the core individuality of a human being, from which ethical and lasting values and the pursuit of all 'knowing' originates. He attributes imagination, inspiration and intuition as spiritual qualities, and as essential to the unfolding of human potential.

To illustrate this, one could say that Shakespeare's plays, Michelangelo's works of art, Beethoven's music and Einstein's Theory of Relativity all have an enduring quality, and are achievements from the heights of imagination, inspiration and intuition. As every human being is endowed with these 'spiritual' or enduring qualities, we can all experience their workings in our lives, and develop them further given the understanding needed to do so.

Steiner meticulously observed the nature of 'thinking' (cognition), 'feeling' (emotion/affect) and 'will' (drive/intentionality) in the human being, with their higher manifestations of imagination, inspiration and intuition respectively, and derived his educational theory from these observations.

'Fixed' and 'flexible' concepts

Steiner (1996a, p. 55-57) argues that perception is an act of will which gives rise to a 'living picture' (i.e. a vivid image) in the mind. This image arises in the moment of perception, hence its 'alive' quality. He argues that all perception is transformed into image by means of the imagination, through which we can perceive reality in a *living* way. He illustrates this with a simple example, as follows:

That we perceive chalk as white, for instance, arises out of the use of the will³, which through ... imagination becomes a living picture. (1996a, p. 55-56)

This quotation makes the point that imagination spontaneously works in conjunction with perception. If we listen to a story, through the words spoken we perceive the images presented by the story-teller, using the imagination. Likewise, one could look at a rose, perceive its form, colour and perfume; the imagination could bring these percepts together into a characterisation, such as 'the rose being the queen of the flowers' or 'the rose being the epitome of beauty'.

When Steiner speaks of a 'living picture,' he understands this to be an *experience* of our inner world or of outer reality, which we cognise by means of a vivid image. This 'living picture,' which can only be experienced in the moment, allows us the possibility to find meaning without pre-conceived ideas interfering.⁴ One could name this form of cognition 'open thinking'.

The experiential quality of the 'living picture,' which is the very nature of imagination, is an important activity which needs to be nurtured, as in our westernised way of thinking we move too readily into fixed concept-formation (Steiner, 1996a, p. 65-66, 77).

By contrast to the 'living' nature of the imagination, concepts have a different role to play in the process of cognition (Steiner 1996a[1919], p. 55-57). The mind creates concepts from our experiences as described above. These concepts are mental

3. Steiner's concept of 'will' corresponds with terms such as 'volition', 'intentionality' and 'drive'.

4. Steiner is not suggesting cognition without former conceptual understanding, but that conditioned thinking can be transformed by a 'living' experience, so that a new, open idea with potential for growth supersedes an old concept.

constructs which have drawn the essence from our experiences and formed them into ideas or general principles, with which we build our knowledge of the world in the way that we have perceived it. Concepts are stored in memory, and therefore, according to Steiner, are characterised as 'past experience'.

Steiner (1954, p. 144) argues that concepts can be either fixed or flexible, depending on how they have been formed. Fixed concepts result when we *adopt* mental constructs rather than create them from living experience, from pure cognition. Rote learning, as for example in teaching from textbooks, occurs when a teacher transmits 'finished products' of the mind, which learners have to memorise, producing rigidity and unimaginative thinking.⁵ Flexible concepts, on the other hand, are created by the learners themselves, either through the living experiences of the imagination (which every child will form according to his or her own perceptions) or through experiential activities, such as own observation or exploration of a topic.

Learning, therefore, in Steiner's terms, can either be effected by the transmission of facts and skills, which the child perceives as 'dead' or 'lifeless' information, and which she or he has to memorise to retain, leading to the adoption of fixed concepts; or as living experiences, generating enriched, vivid perceptions from which imaginative (and therefore memorable) understanding is derived, leading to flexible concepts.

These, as two extremes, can be formulated in the following diagram:

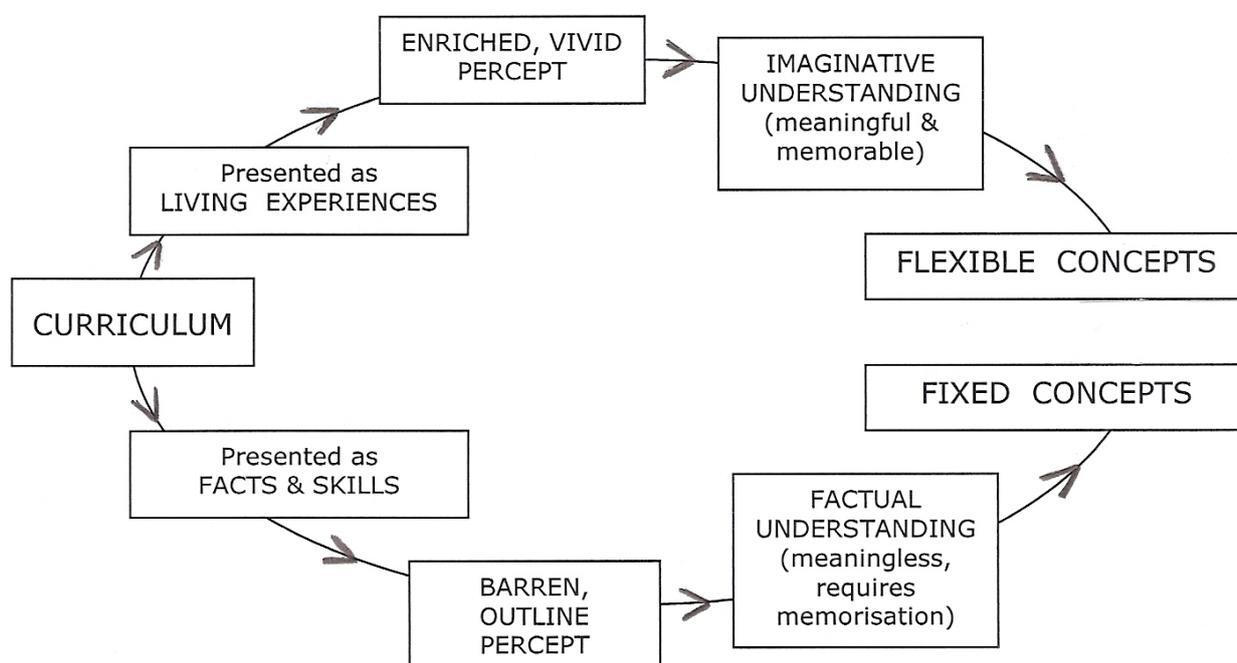


Diagram 1: Fixed and flexible concept formation (based on Steiner 1954, p. 144; 1996a, p. 54-56).

Steiner (1954, p. 144) maintains that concepts that are flexible have the potential for growth as their formation arose out of the 'living pictures' of the imagination:

The child must be given mobile concepts - concepts whose form is constantly changing as he becomes more mature. If we have a certain idea when we are forty years of age, it should not be a mere repetition of something we learnt when we were ten. It ought to have changed its form, just as our limbs and the whole of our organism have changed. (Steiner, 1954, p. 144)

Imagination as integration of cognition, emotion and will

Steiner (1996a, p. 94-102) regards the psyche as being threefold in its functioning: thinking (cognition), feeling (affect) and will (volition/intentionality/drive). These three aspects work as a unity in a human being who has been brought up in a wholesome way. However, where humans have been exposed to an education that overburdens intellectual thinking, at the expense of feeling and will, a separation of these aspects occurs, resulting in a 'fragmentation' of the psyche. The ability to think without engaging feelings and moral will has, in Steiner's view, serious consequences, increasing indifference, violence and criminality in society.

5. Steiner was not against the rote learning of basic skills such as tables, spelling and little dialogues in second language teaching, but always encouraged these to be done in creative ways using movement, speaking in different character types, dramatisation, story, etc.

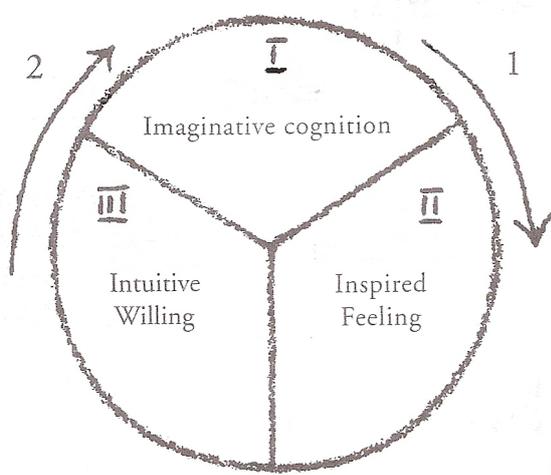
Steiner argues that the imagination unifies thought, feeling and will in the psyche, giving rise to a wholeness of experience. He states that “when a thought is communicated [...] this thought is the germ both of a feeling and an impulse of will” (1954, p. 75).

This signifies that humans are inwardly active when engaged in imagination, generating images, emotions, and energy and enthusiasm for action. Thomas Nielsen (2004, p. 202-203), in his research on Steiner’s educational theory and practice, points out that this view of ‘imagination’ as a bridge to wholeness is not particular to Steiner but is echoed in a number of other thinkers, such as Dirkx (2001), Johnson (1990), Neville (1989), Sloan (1983), Bohm (1980), Warnock (1976), Rugg (1963), Langer (1953), and Dewey (1916).

Steiner (1996a, p. 118) contends that imagination gives rise to a circular effect: imaginative cognition stimulates inspired feeling, which evokes intuitive will (action or internal activity), which in turn arouses the imaginative cognition (see diagram 2 below):

Diagram 2: Circular effect of cognition – feeling – will (simplification of Steiner 1996a, p. 118)

This circular effect explains why learners who are presented with an imaginative introduction to a new topic, are typically calm, inwardly experiencing heightened feeling. When discussion ensues, they do so with great eagerness, out of internal activity (will) that has been stirred by these feelings. Through this stimulation of the will, the learners generate their own imaginative insights, causing the circular process to repeat itself again and again.



Imagination as ‘intuitive thinking’

Steiner (1964, p. 82) argues that the human being is an integral part of the all that exists. Even though we *perceive* ourselves to be separate from nature, we are of the same substance and therefore entirely a part of the *whole* of nature. This means that all that occurs, whether in humans or in the rest of nature, is part of a “universal world process”.

This leads Steiner (1964, p.73) to maintain that *intuition* is active in thinking. Through intuition we instinctively *know* the truth of a thought process, whether what we have imagined accords with the “universal world process” or not.

As in our everyday consciousness we perceive the world around us as being separate entities, we are tempted to produce mental constructs that regard everything as objects, separating these from ourselves as subjects. The current concept of education is still largely based on this premise. However, what is needed is a higher form of consciousness, in which we rise above the separateness, and attain to an interconnectedness of understanding the phenomena of life. This interconnectedness⁶ is experienced, according to Steiner, through intuitive thinking, in which perception and intuitive thinking are brought together:

What appears to us in observation as separate parts becomes combined, bit by bit, through the coherent, unified world of our intuitions. By thinking we fit together again into one piece all that we have taken apart through perceiving. (Steiner, 1964, p.74)

Intuitive thinking, through which one connects oneself with the truths of existence, distinguishes imagination from fantasy. Imagination is a genuine approach towards expressing truth, whereas fantasy - in the sense of creating images that have a skewed or no relationship to reality - does not attempt to do this.

6. This term is synonymous with ‘eco-thinking’, ‘holistic thinking’.

The art of using the imagination then, is to find images, which are appropriate 'pictures' of truth, showing the interconnectedness of phenomena in seemingly separated objects. An imaginative 'picture' can bring together many aspects of a particular phenomenon into a meaningful understanding of the whole of this phenomenon, and through a metaphoric comparison to a similar process in nature, make the interconnectedness of all universal world processes clear.

If we base our thinking processes on separated objects in the world, we create abstractions - "abstract conceptual hypotheses" - which inevitably do not relate to reality. An abstraction is a construct that "inserts itself between [a human being] and reality", compared to a 'living experience' in which the imagination is active, allowing intuitive thinking to access "the conceptual content of the world [which] is the same for all human individuals" (Steiner, 1964, p. 213-214).

In terms of education, a teacher can facilitate children to experience the world as an integrated whole through an imaginative approach to presenting the phenomena of the world, an approach that fosters the development of intuitive understanding. The abstractions that fill typical text-book education imprison young minds, developing habits of passive acceptance of information rather than continually stimulating a search for their own understanding which they have available intuitively, given the right conditions in the process of learning.

Imagination in the developmental stages of the pre-school child

Steiner formulated a very detailed understanding of child development, characterising the emergence of will, emotion and cognition in the growth of the child towards maturity. This understanding has important consequences in the use of imagination in education.

Joan Almon (1994, p. 227-229), a Waldorf educator, describes how, in the development of the child, fantasy⁷ develops around age 2½ - 3 years, when the child no longer regards physical objects as mere objects, but can fantasise they represent something that is not there in reality e.g. a block can represent a house. However, they are dependent on physical objects to arouse the fantasy needed for play.

Around 5 – 6 years of age, children move away from this dependency, to first creating an idea of their play and then selecting the materials needed. Around 6 years their reliance on materials for play lessens considerably, and they can 'talk' their play, without needing the physical objects. "What previously took place outwardly with objects and busy limbs, now takes place inwardly as imagination is born." (Almon, 1994, p. 229)

In the above, Almon makes a clear distinction between fantasy, as reliant of physical objects and the activities of our lives which children imitate in their play, and imagination, which is an internal 'picturing' that takes place in the minds and hearts of the young. Not all educationists make this exact distinction, nor do the words 'fantasy' and 'imagination' mean the same in different languages, and so are often used interchangeably.

Almon explains the importance of an enriched fantasy in pre-school children as follows:

The development of imagination is an essential step in thinking, but where the development of fantasy has been curtailed, the development of imagination also suffers. Without imagination, one cannot picture an event in history, a verbal problem in mathematics, or the characters of a book. To approach academic subjects without imagination is a dull affair at best, and it is not surprising that children who are being educated without the benefit of imagination at the elementary level find learning so uninteresting [...] in my experience, the children who are the best players in the kindergarten and have the most active fantasy tend to become the most imaginative elementary pupils with the greatest interest in reading. They also tend to be the best-adjusted emotionally, both as children and even as adolescents and adults. (Almon, 1994, p. 229)

Imagination in the developmental stages of the primary school child

Steiner (1964, p. 128) speaks about the next phase of the child as "between the change of teeth and puberty." Obviously, one cannot define exact ages, but he generally refers to this phase as between the ages of six or seven to around fourteen years.⁸ He maintains that "it is not the intellect but the imagination that is predominantly active" during this time, and that teachers need to transform learning content as often as possible to appeal to the child's innate creative thinking.

Steiner often uses the term 'pictures', by which he means the formation of mental images that represent a particular truth or aesthetic quality. The child, he says, "has an inner urge to receive everything in the form of pictures" during this phase of childhood (Steiner 1968, p. 61-62). The teacher, therefore, is asked to stimulate the child's imagination by presenting the knowledge and

7. Almon uses the word 'fantasy' to mean the creative play that children typically engage in; not to be confused with the other meaning of the word 'fantasy' as used in the previous section.

8. Of course, physical puberty already appears much earlier than fourteen; it is the psychological aspect of puberty that Steiner refers to.

skills required by a curriculum as ‘imaginative pictures’, thus mediating the material in a form that can be absorbed and digested by the child according to his/her developmental phase.

Steiner’s argument against the educational theory and practice of his time centred around teaching intellectualised concepts - which to him were dry, dead images - that left no room for further growth in perception and understanding. In one of his lectures, he put the contrast between teaching intellectualised concepts and an imaginative approach very graphically:

I wonder what you would say if you were to see someone with a plate of fish in front of him, carefully cutting away the flesh and consuming the bones! You would certainly be afraid the bones might choke him and that in any case he would not be able to digest them. On another level - the level of the soul⁹ - exactly the same thing happens when we give the child dry, abstract, prosaic ideas instead of living pictures, instead of something that engages the activities of his whole being. These dry, abstract, prosaic concepts must only be there as a kind of support for the pictures that are to arise in the soul. (Steiner, 1954, p. 139-140)

In stating that concepts need to be there as a ‘support’ for the imaginative descriptions, Steiner points out that imagination is always based on reality, therefore truth that is presented in a heightened, vivid form.

Steiner’s term ‘living pictures’ refers throughout his educational thought to mostly oral presentations of knowledge in an imaginative manner (Steiner 1996b, p. 109). Sometimes these presentations are accompanied by the teacher drawing a visual representation on the chalkboard (or painting in some cases) while speaking, so that the activity of drawing or painting further enhances the living experience, which the children take in.

Referring back to diagram 1 above, a ‘living’ experience brings to a child an enriched percept that, in the moment, awakens an imaginative picture. The child is inwardly very active; in Steiner’s terms, feeling and will have been awakened (see diagram 2 above). Hence he regards the event as engaging the whole child, and not only the intellect.

In his argument against an intellectualised approach to teaching, Steiner maintains that its one-sided use “has a destructive and crippling effect on the child” (1964, p. 50), and causes children to “dry out and become stiff” (1996a, p. 154). Instead, “when we make use of this imaginative, pictorial method in education ... we so orientate the child’s nature that his concepts will always be mobile” (1954, p. 140).

Steiner outlines three gradually unfolding phases of development in the primary school child (grades and ages are all rough indications):

Grades ¹	Ages	Characteristics
1 – 3	7 – 9	Children respond primarily to feelings, but need to learn in active ways; hence imaginative learning happens mainly by means of stories and images, rhythm in music and poetry, and presenting everything in human terms; ‘participative’ imagination (Steiner, 1996b, p. 99-100; 103).
3 – 5	9 – 11	Children’s feelings are most intensely experienced; hence imaginative learning still includes stories, but more and more imaginative images can be used to convey knowledge and skills in qualitative ways; ‘objective’ imagination (Steiner, 1996b, p. 103-104; 109-110).
6 – 8	12 - 14	Reasoning gradually awakens, but feelings need to be continually nurtured to avoid one-sided intellectualism; hence imaginative learning will include stories of a historical or biographical nature, and images that characterise the beauty, interrelatedness and values of scientific topics; this period marks the transition towards intellectual thinking, in which, however, the educator needs to ensure that holistic, lateral, ethical & qualitative thinking is maintained (Steiner, 1996b, p. 109-111)

In the table above, ‘participative’ imagination signifies that children, up to the age of about nine years, still have a participative consciousness, therefore the *activity* of image formation brings cognition; after nine years they develop the ability to become ‘spectators’ of images that arise in their minds, hence a more ‘objective’ form of imagination. (Steiner, 1996b, p. 103)

9. When Steiner uses the term ‘soul’ he refers to the psyche of the individual, in which thinking, feeling and our volitional nature (‘will’) interact to make up our psychological nature, as distinct from our physical nature on the one hand and our spiritual nature (individuality) on the other.

Significant agreements and differences

It is interesting to note that Egan¹⁰ and Steiner seem to be substantially different in their conceptions of the human being. Egan finds his sources in the Vygotskian view that thinking emerges in a growing individual as a result of interaction with the cultural environment in which she or he grows up. Steiner, however, through his observation of human nature, describes a spiritual nature as the essence and developmental force working within a human being. Due to this spiritual nature - which is actively at work in our psychological and physical nature - we experience lasting values, meaningfulness and interconnectedness in our lives, and are able to creatively understand, be inspired and think intuitively.

In spite of their different world-views, both Egan and Steiner agree unanimously that imagination plays a role of great importance in the process of teaching and learning, and of the dire consequences when there is a lack of imaginative learning. They both point out how one-sidedly education has developed in the modern era, and the great need to bring imagination, in its different forms, as tools for learning in our schools worldwide.

Both Steiner and Egan argue that imagination plays a key role in our understanding of child development. Steiner maintains that learning by means of the intellect is not natural for a child until she or he reaches psychological puberty (which in his terms refers to around 14 years of age). The young child's ability to comprehend and engage with learning can only happen by means of the imagination, which, he says, has a pictorial, aesthetic quality (Steiner, 1968, p. 66-67). Egan maintains that systematic, philosophic understanding only emerges around age fifteen, and that the years from five till fourteen need a romantic approach, as a bridge between mythic and rational cognition. In effect, they are stating exactly the same, except that Steiner describes the romantic (literate) stage as only beginning around seven years of age.¹¹

Both theorists agree that imagination by its very nature involves emotion. Egan emphasises how this makes learning meaningful, whereas Steiner emphasises the holistic integration of thinking, feeling and will, important in the development of a well-rounded individual. These emphases are not in conflict with each other.

Steiner describes how imaginative learning creates concepts that are 'alive' and 'flexible', having the potential for further growth, whereas intellectualised learning ('abstracted' learning) produces concepts that are 'dead' and 'fixed', having no potential for further development. Egan describes the negative effects of 'dissipated', abstract learning as alienating the young from what they learn, having disastrous consequences. He emphasises the meaningfulness of imaginative teaching, engaging children fully in the learning process. Though Steiner adds the idea of 'growing concepts', the two theorists are in agreement with each other.

From the above, one can conclude that there is consistent agreement between the two theorists on the nature of imagination and its necessity in teaching and learning.

Implications for pedagogy

This section of the article now attempts a synthesis of Egan's and Steiner's approaches in terms of pedagogical implications, to be followed by some examples of imaginative teaching in the section that follows.

1: In-depth understanding of child development

From all that has been sourced in the sections above, it is clear that education in general needs to reconsider child development in the light of the unfolding of learning. Egan (1997, p. 52-53) states this as follows, regarding educational practice:

Enormous emphasis has been placed on those intellectual skills that young children manage least well and develop only slowly - computational, logico-mathematical skills - with an equivalent neglect of what children do best - metaphoric, imaginative thinking.

The realisation that imagination is the forerunner to a more rational way of thinking needs to bring about a complete rethink of *how* a curriculum is implemented. This is especially true for the pre-school and primary school years.¹² The fact that the imagination unfolds in stages, as shown in the sections above, provides a rich and exciting journey of discovery of largely uncharted territory. The work of Steiner and the schools based on his approach, and that of Egan and his colleagues, provide a valuable basis for this exploration.

10. This statement is based on the literature researched.

11. According to Waldorf practice, children of 5 years can be supported in their emerging interest in literacy, but should not be taught literacy till 6 ½ or 7 years. The development, around 5 years, of abstract, 'objective' capacities is recognised, which can be further developed in a non-literate way until the physical body (particularly the brain) is ready for formal learning.

12. Imagination continues to have a role to play in secondary and tertiary education, but an explanation of this is not within the scope of this article.

2: Transforming abstract into imaginative learning

The first and foremost pedagogical principle that both Egan and Steiner propose, is that, as far as is possible, curriculum content needs to be transformed into imaginative learning, for children to find it meaningful, interesting, memorable and 'digestible'.

Imaginative learning is *based* on abstract understanding - the way in which we perceive the world to be - and is not a fantasy that has no foundation in truth. It is a way of 'picturing' a truth that sees it in relationship to one or more aspects in the world, thereby giving the truth context and interconnectedness. The more enriched this 'picturing' happens, the more intensively the child is able to connect with the particular truth that is presented.

Instead of presenting a part of the curriculum in the form of abstractions in a *direct* manner to a class of children, it needs to be mediated by the teacher into a form that allows them to connect with its truth in a way suited to their age. This can be done via an *indirect* approach (Neville, 1989, p. 15, 16), through the medium of story, image, metaphor, rich description, characterisation, wonder, one of the arts or other imaginative possibilities (see examples below).

3: The desire to learn

The biggest challenge in education, in my experience, is to inspire children to *want* to learn. In my role as mentor and assessor of student-teachers doing their practice teaching, I have always observed how, when a student-teacher presents something abstractly, the children lose interest very quickly and do not take in the subject matter taught, as if it is something foreign to them. However, as soon as the student-teacher brings in an anecdote, an image, a little story, or touches on something that arouses emotion, the children immediately listen with interest. The greater the depth (or hilarity!) of the imaginative input, the more engrossed they become.

An important reason for this is that the imagination offers what is to be learnt *as if one is experiencing it* in the moment, as a real life experience. Colloquially the phrases, "living what we learn," "becoming' the learning", "identifying with the learning" all express this phenomenon very aptly. Steiner refers to this as 'living pictures', and Egan (2007, p. 8) as "images to effect us as though they were present and real."

I have also observed how this 'living experience' brings a sense of satisfaction to the students and generates enthusiasm for what follows in the lesson. The reason for this is that imagination is a 'whole-person' activity, connecting the mind with the emotions, and in Steiner's case, emotion and will. The will, as the driving force within the child, seeks to satisfy curiosity, to participate and to create when stirred into activity.

This integration of the self is of utmost importance, especially as our current way of living tends to fragment and disperse, rather than bring unity of experience. Witness of this are the increasing levels of ADHD, autism and generally disturbed behaviour of children in schools (see for example Mandell, Thompson, Weintraub, DeStefano, & Blank, 2005). The "imaginative classroom" (Egan, 2005, p. 15) can do much to bring healing, balance and contentment through its ability to integrate thinking, emotion and the wish to participate fully.

4: Superficial and depth learning

One of the important effects of employing imagination in teaching, is that it provides depth in learning. The implication of this is far-reaching for educational practice.

Steiner (1954, p. 198) states that our current civilisation has separated head-learning from heart-learning, resulting in a tendency towards superficiality. He states that learning is constructed to make us cognise everything "with our heads alone". He claims that, by contrast, children who are exposed to an imaginative form of learning, "do not merely 'have an idea' in their heads; they *feel* the idea, for it flows into their whole life of feeling" (*ibid.*, italics added).

Egan (2007, p. 19) is in agreement with Steiner, writing that when learning is disconnected from emotions, the result is an educationally barren experience. The transcending of the intellect/emotion split, he argues, is essential if education is to be meaningful and productive.

One of the symptoms of superficiality in present-day teaching is the excessive use of visual learning. I was reviewing a student-teacher's reflections on her school-based experience. She expressed surprise about the over-emphasis on visual learning:

From my first lesson I discovered that the teacher strongly believed in photocopying! She suggested I prepared everything for the children and then just made copies ... all they did was to "fill in the blanks". I found that this technique of photocopying patterns and worksheets was very restrictive, but all teachers seemed to do it constantly. I felt that it took a lot of creativity and imagination out of the task. (Danielle Davies, 2nd year part-time student-teacher, Centre for Creative Education, Cape Town. 19/09/2008)

Already in the early 1900s, Steiner (1971, p. 88-89) remarked on the tendency to regard learning as a visual process only, focussing on teaching the obvious. The result of teaching in this way is that the child takes in fixed impressions, which therefore have no potential for growth. Learning remains at a superficial level, whereas if the child is stimulated to think beyond what she or he already knows, perceiving the context, qualities, potentials and/or meanings of the topic in hand, depth of knowing results. Egan (1986, p. 5-19) devotes an entire chapter on this very point.

5: *Text book versus experiential learning*

In the same context, the use of text books as a means of teaching new concepts is also regarded as a 'dead' rather than an experiential, 'living' approach. (Steiner 1971, p. 67)

Learning for young children is a matter of human-to-human relationships, in which the teacher's descriptions become the child's window to knowledge of the world. Although text books can have their uses, for example in providing exercises for practice work, the teacher that conveys learning through a prescribed text is simply meeting out standardised, fixed information. The results are obvious: standardised, fixed ways of thinking, inability to think for oneself, be innovative or entrepreneurial - the ruin of any person and ultimately a country.

The memorisation of definitions, or of factual information, also contributes towards the problem of fixed learning. Steiner (1954, p. 144) maintains there is nothing more hurtful to a child than having to either learn or be asked to form definitions, or be engaged in absorbing fixed concepts, because these have no possibility of growth. Instead, a 'living experience', such as presenting a problem without implying the answer (for example, in a physics experiment, or in discussing the ethics of a historical character) will stimulate children's own perceptions, allowing them to find their own conclusions.

In the same way, one of education's roles, according to Egan (2007, p. 10-11), lies in resisting conventional, stereotyped thinking. He sees a continual tension between teaching the conventions everyone needs to know and yet building those capacities that allow freedom from the conventional. In this case, he says, conventions become tools for one's use, rather than constraints. However, "the school's bureaucratic needs for order and various kinds of regimentation exert subtle but powerful pressures against [developing the ability to rise above conventions]."

6: *'Creative programmes' versus imaginative teachers*

Egan, Stout and Takaya (2007, p. vii) maintain that, in general, the instructional programs that have been in use that claim to utilise imaginative materials and methods, fail to stimulate students' imaginations. According to them, this is due to a rather superficial understanding of imagination and its importance in the lives of students.

I am of the opinion that these so-called 'creative programmes', containing mostly purely intellect-based work for children to do in a variety of ways, such as analysing texts in groups, is a step forward in making learning more child-friendly. However, they often lack emotional content, leaving children with a certain amount of knowledge, but emotionally and imaginatively untouched.

These missing elements are best provided by teachers who set the scene imaginatively, incorporating human emotions that bring the students into a relationship with the content, before leading on to the reading and discussion of the texts.

Some examples of imaginative tools

Story as educational tool

Stories arise out of oral cultures, in which they are used as "one of the most effective tools for encoding important social information in a memorable form" (Egan, 2005, p. 11). In today's classrooms, the creation of stories for introducing children to new concepts allows them to 'live into' the concept in an imaginative way. Catherine van Alphen (2008, p. 4) argues that

... children easily discover the concept for themselves if the teacher translates an idea into a pictorial metaphor and allows them to explore it imaginatively. The concept [...] becomes real and self-evident for them.

For example, when introducing addition, a character called Farmer Plus is described as always counting up all the vegetables, fruit and animals that he owns on his farm. The various dramas that Farmer Plus has to solve allow him to become part of the children's imaginative world, a meaningful person in their lives who always fulfils a specific role. This is far more valuable than merely remembering the addition process as an abstract formula. Suddenly learning becomes enjoyable!

Steiner (1954, p. 165) has the following to say about the teaching of history in the years before the age of twelve:

[The child] must be able to enter into a personal relationship with historical figures and with the modes of life prevailing in the various historical epochs [...] everything we say must enter the domains of feeling and will in the child. He must himself be *able to live in the events*, to form himself within them by the way they arouse his own sympathies and antipathies. [italics added]

Stories have a particular 'magic' that can make children 'spell-bound', therefore totally engrossed in what is being related. Deeply felt emotion stirs within the child, though in a well-contained way. (Egan 2005, p. 10) The story passes through a wide range of emotions, often portraying moments of struggle, loneliness, deprivation, but also courage, determination, persistence and ultimately triumph. Children 'become' the hero or heroine of the story, and experience it as if it were their own lives (Egan, 2007, p. 20).

It is important for the teacher to realise that whatever stories are created for learning, they need to be consistent with truth. Story telling is not shallow entertainment to catch children's attention, in a manner in competition with the media, but a genuine imaging of truth in a way that children can easily absorb. As Egan (2005, p. 12) states, teachers "can use stories routinely in teaching any content, without fictionalising it in any way."

Image as educational tool

A more sophisticated use of the imagination is the forming of images for teaching subject content. As an example for younger students, when learning to tell the time, an image will immediately awaken their interest and delight them, connecting them in a human way to something essentially mechanical: the clock.

You may have seen clocks that have three 'hands', which are pointing to the numbers on the clock all day long. These hands are like three brothers. The shortest brother is very slow. He takes his time to do things slowly and carefully, never hurrying. He has all the time in the day to do each thing that needs doing. He moves so slowly, you wonder how he can get anything done. But, by the end of the day, he has done everything that he intended to do!

The longer brother likes to move more quickly. He likes to get things done well, but in a shorter time. "Get a move on!" "Don't waste any time!" Every task needs to be done by working very hard, so that it takes only a short time of the day. You can imagine how many, many things he has to do in a day!

The third brother is the longest, but also the thinnest. He is a nervous little fellow, always moving as fast as he can, hurrying from one thing to the next. Because he is in such a hurry, you may wonder how he is able to finish each thing properly! You can always see him moving round and round, never stopping to think what to do next. "First I do this, then I do that!" He likes rushing around: "I have so many things to delight me every moment of the day!" (van Alphen, 2010, p. 91)

The children will, of course, be telling the teacher what each of these hands show us: hours, minutes and seconds! This could lead to studying each 'brother' in turn, over the days that follow.

For older students, studying Botany, one can use images in learning about the structure of plants, to create interest as well as develop broader thinking skills in students. For example, starting with a general picture of the plant as a whole, one could say:

Roots 'dig' into the soil to find the water and nutrients they need; we also need to 'root' ourselves firmly on the ground, otherwise we will easily fall over when we stand; we also speak of being 'grounded' rather than having crazy ideas about everything; our legs are continually 'touching earth,' finding our position.... the stem of the plant is like our spine, which holds the plant upright; it is flexible enough to sway in the wind, or to be twisted around by some passing animal without breaking the branches are like our arms, spreading out in all directions, only a plant will have many more arms than we have ... they carry many leaves, like many hands that stretch themselves out to try to collect as much sunlight as possible; they receive, but they also give, just like it is good for us to do the arms also carry buds, like our fists, tightly held until they are ready to open up into flowers

The general picture can then lead to the specific details, again in imaginative ways that will light up the interest of the students. For example:

... at the end of each root there is a root cap, a tough, hard part of the root for 'digging' into the soil, like we would have a metal garden trowel to cut into the ground, rather than damage our hands by digging with our fingers. The root itself is like the handle of the garden trowel, able to 'push' into the soil, twisting itself in a spiral for greater force to dig into the soil, like a cork-screw worms its way downwards into a cork ...¹³

Such imaginative introductions can then lead the students to learning more details about each part of the plant, examining the parts and drawing the details themselves rather than only looking at them in a book or on a poster.

Egan (1997, p. 61-62) gives the following examples, in which the student 'becomes' the item to be studied:

13. Author's own example.

When teaching about the earthworm [...] the instructor can augment the facts about its senses and structure by evoking for students images of what it would be like to slither and push through the soil, hesitantly exploring in one direction then another, looking for easier passages, contracting and expanding our sequence of muscles segment by segment, and sensing moisture, scents, grubs, or whatever...

...when teaching about flowers, one could imagine emerging from the cold ground, pushing towards the light, bursting with a kind of ecstasy in the warmer air, turning with passion toward the sun, feeling the rush of sap...

An example from Egan (2005, p. 64-65) of creating images in language work, is to create personalities in order to distinguish the homophones 'their', 'there' and 'they're'. Egan suggests the students can create these personalities in groups, regarding them as members of a family that look alike as regards spelling, yet are different in character. Each group is given one of the homophones, creating a personality with particular characteristics, the teacher suggesting the following to start them off:

"There" is a very kind and helpful person, whose last three letters seem just to be pointing away to things so people know where they are ... The first 'e' sets up the direction, the 'r' checks that that is Right, and the final 'e' does the precision pointing. Her character is of a helpful, cheerful, precise person.

"Their" on the other hand is a very egotistical fellow ... you can tell this because he keeps his ego – his "i" – inside, and traps it with the final consonant. He is also, unfortunately, rather greedy and envious, and constantly goes on about what people own.

You can tell that "They're" is the oldest, as he has grown more letters than the other two. He was always a very inquisitive member of the family, constantly asking "why?" In fact he asked it so often at school that he seemed to have his hand permanently up - hence the apostrophe. He is a bit boring, as he keeps telling people about what the family is doing or planning all the time.

The students can elaborate the characters further, based on the spelling, and subsequently construct a story how they interact.

Conclusion

From all the above we can conclude that the education of children in the pre- and primary school stages needs to use - as its primary tool for teaching - imaginative approaches to learning.

The point made by Egan and Steiner, that children up to the age of about fourteen or fifteen are not ready to learn in a purely logico-mathematical mode, means that subject material needs to be mediated by the teacher by using imaginative tools as described above.

Both theorists argue that teaching needs to integrate intellect with emotion for learning to be meaningful in schools, and that by means of the imagination this integration can be achieved. They also maintain that imagination in no way falsifies or fictionalises learning content, but enhances lesson material, leading to greater depth of experience and understanding.

The implications for teaching, and particularly for teacher education, are profound. A complete shift in educational theory and practice is called for. The development of imagination in teachers - side-by-side with the appropriate educational skills and understanding - becomes a prime objective, recognising that teaching is an art as well as a science.

There are a great number of imaginative tools available to the teacher. Two important examples, the art of story telling and story making, and the ability to create images that deepen the experience of an item of learning, have been given. These imaginative tools need to become part of every teacher's toolkit so that children - and the teachers themselves - may become inspired and enthused in every day's lessons.

Educational theory needs to include an in-depth study of the nature of the imagination, its purpose and potential in developing multi-faceted learning, rather than focussing only on rational learning, excluding the very tools that help children to become more interested in, and therefore more able to 'digest', curriculum content.

This could serve as an important asset in our current educational crisis, in which we face many challenges in the classroom: behavioural; the high incidence of ADHD, Asperger Syndrome and other forms of Autism; and the many disrupted situations of children due to violence, displacement, political unrest and trauma all over the world, which the media are bringing to our attention.

Perhaps the largest challenge in our contemporary educational scenario is how to transform teacher education, so that it can *model* imaginative teaching by using its tools in the process of acquiring the necessary theory and practice in its teacher development programmes. After all, the best way for a teacher to acquire the necessary imaginative skills, would be to experience the use of these skills in the teacher development programme itself.

Ultimately, imaginative teaching can help to *humanise* educational experience, by involving the whole human being in the process of learning. The integration of intellect with emotions has the potential to develop a strong *will* to learn - a gift for life for learners and teachers alike.

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(Footnotes)

1. In Waldorf/Steiner schools children enter Grade 1 in the year they turn 7.