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# Imagination Engaged Learner

Cognitive Tools for the Classroom

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## Imagination and Its Importance in All Classrooms

All the knowledge in the curriculum is a product of someone's hopes, fears, passions, or ingenuity. If we want students to learn that knowledge in a manner that will make it meaningful and memorable, then we need to bring it to life for them in the context of those hopes, fears, passions, or ingenuity. The great agent that will allow us to achieve this routinely in everyday classrooms is the imagination.

### WHAT IS IMAGINATION?

As our introductory paragraph above suggests, we believe that imagination is one of the great tools for stimulating effective learning. But what is imagination? There is a short answer and a long answer to this question. The short answer given by Alan R. White (1990) is that to “imagine something is to think of it as possibly being so” (p. 184), and that an “imaginative person is one with the ability to think of lots of possibilities, usually with some richness of detail” (p. 185). He adds that imagination “is linked to discovery, invention and originality because it is thought about the possible rather than the actual” (p. 186).

One other important thing to note: There is a tendency in education to see reason and imagination as distinct categories, even to the extent that some areas of the curriculum are largely assumed to address and develop one, and other areas are largely assumed to address and develop the other. This view seems to rest on the old and casual assumption that the arts deal with imagination and science and math and other academic areas deal with rational developments. (This view leads, of course, to the related inadequate assumption that if you want to engage imagination in science you should use “arts-based” approaches to teaching the science). In this book we aim to undercut any such distinction; we embrace William Wordsworth's view that imagination is “Reason in her most exalted mood” (Wordsworth, *The Prelude*, Bk. XIV, line 42). We will demonstrate that the imagination is the great workhorse of learning in all subject areas. Successful science and mathematics learning requires,

and can engage, imagination no less than arts activities. Too often the old distinction of arts dealing with imagination and academic subjects dealing with reason has led to a neglect of engaging students' imaginations in learning academic subjects and consequently greater difficulty in teaching them successfully than should be the case.

Here, then, is the slightly longer answer to our initial question: Imagination is the capacity to think of things as possibly being so; it is the source of invention, novelty, and generativity; it is not distinct from rationality but is rather a capacity that greatly enriches rational thinking; and it has an equal role in successfully learning academic subjects as engaging in arts activities.

### WHY IS IT SO IMPORTANT IN EVERYDAY CLASSROOMS?

Students' imaginations are often considered as something that might be engaged after the hard work of learning has been done—perhaps on a Friday afternoon when disciplined study is less likely to be effective, or perhaps in arts classes or time set aside for students' self-expression. In this book we want to show that this common view of imagination's role in education is both wrong and damaging. Rather, the imagination should be invoked at any time and in all curriculum areas to enrich and make all students' learning—and all teaching—more effective.

In professional development programs for teachers much time is given to the organization of curriculum content, development of concepts in different discipline areas, classroom management techniques, and other such things. How to engage imagination in learning is not a routine topic in teacher education programs, in part, we suspect, because it is thought to be somehow too vague, not able to be taught, beyond routine use by teachers, and possibly something many teachers feel they don't really possess adequately, even if they might admire other teachers' imaginative lessons. We do not find the word *imagination* in the indexes of any books we have consulted about teacher education, and some of the most widely used books that are most impressive in other ways—such as Darling-Hammond, Bransford, LePage, Hammerness, and Duffy, 2007, and Hargreaves and Fullan, 2012—continue this neglect.

Some teachers resist even becoming involved in discussions about imagination in teaching, saying, "But I'm not really imaginative. I can't think of my algebra or history or literacy classes like that." We believe that everyone is imaginative in varying degrees and that the reason many teachers are reluctant to engage with the imagination in teaching is simply because they have not been taught in teacher education programs how to do it. Some may also be intimidated by memories of one or two really imaginative teachers from their own school days

who were virtuoso teachers with an intuitive feel for engaging students' imaginations; they are confident that they cannot emulate that energy and inspiration. As a result, many teachers think of engaging imaginations as something that only a very few intuitively imaginative colleagues can manage.

One of our aims is to dispel the belief that only a few can manage imaginative teaching by showing that there are techniques that any teacher can learn and that can be relatively easy to apply in any classroom. Using these techniques for engaging imaginations can make students' learning more efficient and effective, and can make teaching and learning more interesting, engaging, and pleasurable for all. (For broader discussions of the role of creativity and imagination in education see Egan, Cant, & Judson, 2013; Egan, Judson, & Madej, 2014).

We call the approach that uses these techniques *Imaginative Education* (IE). Applying the principles of IE will not instantly make a teacher into one of those intuitive virtuosos she may have been lucky enough to witness in practice, but it will make any teacher able to more easily engage her students' imaginations in learning as well as involve her own imagination in teaching.

### WHAT IS NEW ABOUT THE IMAGINATIVE EDUCATION APPROACH?

The IE approach to engaging students' imaginations in learning is developed from three distinct sources, which, when brought together, offer a distinctive approach to the practice of education. It is distinct from both the traditionalist and progressivist methods that have dominated so much teaching practice during the previous century. IE is truly a new, 21st-century approach, although it draws some of its inspiration from old, even very old, resources.

First, IE draws on the work of Russian psychologist Lev Vygotsky (1896–1934). Vygotsky figures in much thinking about education, but, oddly, the aspects of his work that seem to us most potentially powerful for educational practice are little noted. We draw particularly on his work about how students gain an increasingly rich understanding of the world by gradually accumulating “cognitive tools.” Vygotsky's ideas about how children develop intellectually is different in important ways from Jean Piaget's and other theorists' views. He believed that children first make contact with ways of making sense of the world by witnessing them at work in others around them—adults or older children. They experience these different ways of sense making as tools that are a part of the surrounding culture. As time goes by and children start to use them, the tools become internalized as cognitive tools that children can then use to enhance their powers of thinking and enlarge their

understanding (see Vygotsky's ideas in Cole, John-Steiner, Scribner, & Souberman, 1978; Kozulin, Gindis, Ageyev, & Miller, 2003; Rieber & Wollock, 1997; Vygotsky, 2012; Wertsch, 1988).

What are “cognitive tools”? Imagine it is 6,000 years ago, and you are in what is now Iran. It's a very hot day. You can see a palace set back from a small river and surrounded by a blue wall, with zigzag decorations in ochre and red. You approach the side gate from the harsh scrubland extending back from the strip of green reeds that border the river. From the hot and dusty exterior you walk through the gates of the blue wall into a lush garden, with streams of water and a variety of trees and shrubs. Walking along a rambling gravel path by the main stream is an elegant woman in brightly colored robes accompanied by her servants and a slave who holds a canopy to keep her shaded from the fierce sun. They are talking and laughing. It seems like paradise after the unforgiving land that surrounds the garden. Indeed, you discover it is what the ancient Persians called a *paradaiza*, from which our word *paradise* is derived.

You discover further that the woman is highly regarded because she worked out a way of using a wet clay tablet to visually represent the land around the river (what we would call a *map*) upon which she indicated who owned which parcels of land. After the clay tablet was baked, it preserved agreements about where one person's land ended and another person's began. Everyone immediately recognized the value of such maps, and her husband, who was the one who showed the king this new tool for recording property lines, gained much credit and wealth. This wealth paid for the family's walled paradise of flowing water, greenery, and the cool palace.

This first map was a cultural tool, one of considerable practical importance. Such maps became common ways of representing the land and its divisions in a compact form. As people learned how to represent land this way, maps became what we call a *cognitive tool*—a skill of thinking that anyone who learned how maps could represent space could use.

In our cultural history, we have invented a range of cultural tools, each of which, when it is learned by an individual, becomes a cognitive tool for that person. In this view, education is the process of equipping our students with the maximum number of these sensemaking cognitive tools available in our society. Ideas like this are thus called sociocultural theories.

More basic cultural and cognitive tools are those built into our uses of language. The use of tenses, the subjunctive, and metaphor, for example, are cognitive tools invented millennia earlier than maps and inherited by anyone learning a language in early childhood. These features of language did not just happen; they were invented by creative people and then adopted by others to enhance their powers of articulation,



communication, and thought. These cultural tools become cognitive tools as they are internalized by children when they learn language from their parents.

The particular tools we pick up influence our understanding of the world around us, just as lenses influence what our eyes see. These lenses (cognitive tools) “mediate” how and what we can see and how and what we can make sense of. The more successfully and flexibly we learn to use metaphors, for example, the more our capacity to think creatively and imaginatively is enhanced. So a central focus of this book is on the cognitive tools that children accumulate as they learn an oral language and then as they learn to read and write, and how these tools can be used for more effective learning in everyday classrooms.

Vygotsky’s work suggests a new approach to teaching because of this fundamentally different way of describing how human beings develop intellectually. A central educational challenge is how to stimulate, use, and develop these tools to enhance students’ learning and understanding—that’s what this book aims to show how to do.

The second source of the IE approach involves studies of thinking in traditional oral cultures. This might seem a rather unusual place to look for help with everyday teaching today, but we explore what this seemingly indirect route has to offer. By understanding the tools that enabled human cognition gradually to emerge and develop historically, we can get a better grasp on how to help people learn. Moreover, we can recognize how these same tools emerge and develop in students today (e.g., Bickerton, 2010; Lévi-Bruhl, 1985; Lévi-Strauss, 1966; Mithen, 1999, 2006, 2007).

Children in the West today who go to school cannot be considered in any simple sense like people who live in oral cultures. For one thing, the environment of the modern preliterate child in the West is full of literacy and its influences; for another, those who live in oral cultures have gone through their own distinctive forms of intellectual development. Despite these differences, many of the cognitive tools we find in oral cultures, such as storytelling, forming images from words, and using binary opposites, help us understand how everyday teaching might be made more imaginatively engaging to students. Even very briefly exploring some of the cognitive tools of oral language will yield a number of practical techniques.

The third foundation for IE is the systematic work done during the past decade and a half by the Imaginative Education Research Group (IERG) at Simon Fraser University. This group was formed at the beginning of the 21st century and has quickly developed an international reputation for its innovative, practical, and successful programs. Their focus has been to show how the emotions and imaginations of all students have to be engaged for learning to be effective and efficient. They

have shown great versatility in designing techniques and methods for enabling teachers to routinely engage students in these richly evocative ways. You can find further material and examples of lesson and unit plans on their website ([ierg.ca](http://ierg.ca)).

While the theory of IE was built in part on Vygotsky's ideas about cognitive tools, Vygotsky did not develop his ideas about cognitive tools in any detail nor did he explore their implications for education. The IERG has done just this. One result has been the recognition that cognitive tools are not developed singly, each independent of others, but rather develop in sets; in other words, they come not as separate cognitive tools but rather as cognitive toolkits. In this book we examine two main cognitive toolkits that teachers can use to engage students in successful learning: orality and literacy.

### CONCLUSION

Imaginative teachers attend to the imaginations of their students. That is, teachers who are imaginative not only make their practice vividly engaging but also think about how to stimulate and develop the imaginations of their students. Thus in their practice they are sure to bring to the forefront the use of those forms of intellectual activity that seem especially able to stimulate imaginative activity. They not only consider the curricular content and concepts they are dealing with, but also think about the emotions, images, stories, metaphors, sense of wonder, heroic narratives, and other cognitive tools that can give these concepts and content life and energy.