



One of the great paradoxes of education is that only when one knows something deeply can one recognize how little one actually knows.” Kieran Egan

Imagination in Education

This year's theme at the Institute has centered on Aim 9 of the *Declaration of Interdependence*: To assist in the emergence of men and women of universal culture, capable of continuous growth in non-violence of mind, generosity of heart and harmony of soul. The aim promotes reflection on the finer qualities in human nature, the process of emergence, on education and how we learn. These may in turn lead to specific questions about teaching. A question Kieran Egan asks about teaching is, “How to bring the easy imaginative engagement of a child to the learning of algebra, history and so on?” How might we think through lessons at the planning stage that draw students into a subject and foster engagement?

Who is Kieran Egan? He is a philosopher of education and a contemporary professor from Simon Fraser University in British Columbia who directs the Imaginative Education Research Group founded by the Faculty of Education at Simon Fraser University. He is the author of *Teaching as Story Telling* (1986), *The Educated Mind: How Cognitive Tools Shape Our Understanding* (1997), *An Imaginative Approach to Teaching* (2005), *The Future of Education* (2008), *Learning in Depth* (2010), and many others. Egan was born in Ireland in 1942, and was educated in England. He graduated from the University of London, and eventually moved to the U.S. to begin a doctorate degree in the philosophy of education at Stanford University School of Education. He completed his Ph.D. in Education at Cornell University.

Egan's purpose is to improve education on a global scale by bringing the imagination into education in a way that fits with how human beings seem to

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make sense of things at particular stages of life. Egan wrote, “The aim of imaginative education is much more knowledgeable students who are able to think flexibly, creatively and with energy about the knowledge they gain about the world and experience.” Rather than a static formula, he emphasizes teaching for “kinds of understanding” which occur during an individual’s intellectual development. Egan presents a theory of educational development in which the acquisition of cognitive or intellectual tools drives students’ educational progress. Cognitive tools are aids to thinking developed in cultural history and learned by people today to enlarge or deepen their powers to think and understand. He has designed frameworks for teaching that illustrate some of the principles of imaginative education. Each stage offers an array of cognitive tools that are available for engaging students’ imaginations.

During the Dec. 3rd seminar we focused on three stages; the first, Language, includes children 7-9 years old who use oral language fluently. The next stage, Literacy, comes when students are about 7-9 to 14-16 years, after literacy is fluent. The third stage, Theoretic, is comprised of senior high school and college students who have picked up the other two.

The primary cognitive tools in the oral Language stage include the following: story, metaphor, binary opposites, rhyme, rhythm and pattern, jokes and humor, metal imagery, friendly conversation, play and recognition of mystery, along with embryonic tools of the next stage, Literacy. The framework for planning lessons for this stage is called Mythic.

In *An Imaginative Approach to Teaching*, Egan explains that stories shape emotional understanding and content and allow students to engage with knowledge. Stories are a way of passing down cultural knowledge. Metaphor is a tool allowing us to see one thing in terms of another. Egan said, “This peculiar ability lies at the heart of human intellectual inventiveness, creativity, and imagination.” Research about young children by Winner (*The Point of Words*, 1988) produced unexpected findings that young children in pre-school produced the highest number of metaphors, exceeding even college students. Three and four year olds fashioned significantly more appropriate metaphors than did children aged seven or eleven (Howard Gardner and Ellen Winner, in *On Metaphor* by Sheldon Sacks, 1979). Egan suggests we should keep metaphor alive in teaching by exercising it frequently; it will help students to learn to read with energy and flexibility.

Binary opposites provide an initial ordering to many complex forms of knowledge. For example, good/bad, competition/cooperation, are charged and make content more engaging. We need awareness and reflection on binary opposites to repair simplistic thinking. Too often schools assume young people have no potential ability to take in ideas such as those found in binary opposites.

Hayek wrote in “The primacy of the abstract” (in Arthur Koestler’s *Beyond Reductionism*, 1970) that abstractions do not arise as a result of encountering concrete objects but rather that only by using abstractions do concrete particulars become recognizable: “concrete particulars are the product of abstractions which the mind must possess in order that it should be able to experience particular sensations, perceptions, power of invention or images.” Gardner observed there is impressive evidence that even toddlers can appreciate quite abstract qualities in the world (ranging from numerosity to animateness to various kinds of causality (*Multiple Intelligences*, 1983). In order to learn from the concrete aids, children require the abilities to make sense of their experience with ideas. This isn’t to suggest that students jump to abstractions without lots of practice in many modalities, but that human beings have potential abilities that can unfold while working with tasks, and if we assume they have these potential abilities, we are more likely to teach in a way to draw them out.

Rhyme, rhythm & pattern are tools for giving meaningful, memorable, and attractive shape to any content. They are important in learning all symbol systems, like mathematics, music, and all forms of knowledge. Humor encourages flexibility of mind and exposes how some language works; it allows play with some elements of language. It shows students rich dimensions of knowledge and fights rigid conventional uses of rules. Mental imagery allows students to generate their own images in an image-saturated society. Images created for words are important. Images may carry more imaginative and memorable force than the concept alone. The use of mental images (in contrast with external pictures) should play a large role in teaching and learning. We know that individuals have raised their level of reading comprehension by learning to visualize.

Friendly conversation contributes to oral language skills and social interaction; it helps with fitting events into a narrative. Play reveals some of the basic ways in which language works and, at the same time, allows students to play with elements of knowledge, so discovering some of learning’s rewards. Play frees individuals from objects with which behavior is fused. For example, playing school is different from being in a classroom; children can enlarge their understanding of norms and limits of school behavior, and enjoy parodying a world in which they were constrained. The recognition of mystery gives a sense of how much more that is fascinating remains to be discovered, drawing students’ minds into the adventure of learning. All subjects have mysteries associated with them.

Embryonic literacy means providing opportunities to use tools of literacy. Vygotsky calls this “Drawing the students forward in their Zone of Proximal Development.” The ZPD is a range in which mastery of a given skill has not been

attained but is within reach. The ZPD is the area in which a student is able to learn new things. An analogy can be made with informal reading inventories in that you end up with a mastery level, an instructional level, and a frustration level. That area within which instruction is fruitful and leads one onto new knowledge or skills is called the ZPD. Learners will begin to show sensitivity to the cognitive tools of the next stage while still working primarily with oral language. While working at one stage, teachers can presage what is associated with the next stage, and thus they may observe awakening abilities in their students.

The next stage focuses on Literacy and is called the Romantic Framework. Egan doesn't equate literacy with decoding, but with taking on the cultural resources that have developed with literacy. Students become sensitive to transcendent qualities; the teacher is concerned with how to evoke wonder. The cognitive tools in this stage include the following: the sense of reality; the extremes of experience and the limits of reality; association with heroes; the sense of wonder; human hopes, fears and passions; collections and hobbies; knowledge and human meaning; narrative understanding; the capacities for revolt and idealism; changing the context; and embryonic tools of theoretic thinking. Heroic qualities can be a focus in every lesson and may inspire students to develop courage by associating with virtues and strengths. Students have a sense of the ideal, whose absence justifies the revolt. Changing the context might involve donning a hat from another time or taking students on a trip through time via mental imagery, ending up in Shakespeare's London or Marie Curie's lab. Who doesn't know children who have spent time creating special collections? Connecting knowledge with human meaning, such as discussing the life of a mathematician before explaining the math, could bring engagement with the topic rather than present math as a standard set of procedures. Egan illustrates this with an example of how Eratosthenes, the librarian at Alexandria in Egypt during the third century, B.C., ingeniously figured out the circumference of the earth using two rods during a time when few thought the earth was round.

The focus on Theoretic Thinking is developed by the Philosophic framework, a guide for lesson planning. The cognitive tools for this stage include, but are not limited to, the following: the sense of abstract reality; the sense of agency; grasp of general ideas and their anomalies; the search for authority and truth; meta-narrative understanding; and embryonic tools of ironic understanding and embodied knowledge. The cognitive tools discussed in the previous stages still remain as available for use, such as stories, metaphor, binary opposites, mental images, extremes and limits, associating with heroes and the sense of wonder. Egan wrote in *The Educated Mind* that the route to developing theoretic thinking is in part a familiar method called the Dialectic, questioning and answering in defense of some hypothesis. Egan refers also to the thesis – antithesis –

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synthesis triad as a possible method of approach. The sense of abstract reality is the rational, logically structured form of thinking that enables students to make sense of the world in terms of abstract ideas. The sense of agency is the recognition of the self as related to the world via complex causal networks, permitting a realistic understanding of how people play roles in the world and participate in historical and social processes. The grasp of general ideas and their anomalies is the tool that allows students to generate abstract ideas about nature, society, history and human psychology, and then to recognize their inadequacy and rebuild them into more complex ideas. The search for authority and truth is the attempt to determine which ideas are true, and is a drive to find the source of authority. Meta-narrative understanding is the tool that shapes knowledge into more general structures that permit a theoretical grasp and a spirited association with the knowledge.

Egan wrote, “Within that abstract realm, attempts to sort out how to know securely, what to rely on, how to establish some basis for ideas is hard work, and most people don’t do much of it unless supported by a community such as a school or college or university or reading and study groups consciously dedicated to developing abstract thinking.” Hence it is clear that being able to discuss ideas with others at the Institute of World Culture is of great value.

Egan was inspired and influenced by William Wordsworth, who he felt was not taken seriously as a thinker because he was a poet.

Love and Imagination

This spiritual Love acts not nor can exist
Without imagination, which, in truth,
Is but another name for absolute power
And clearest insight, amplitude of mind,
And Reason in her most exalted mood.

William Wordsworth, Prelude, Book xiv

The Imaginative Education Research Group website (www.ierg.net) offers more resources, including the frameworks for teaching.

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