

KIERAN EGAN. *How cognitive tools shape our understanding*. Chicago & London: University of Chicago Press (1997). 312 pp. US\$24.95 (paper) ISBN 0-226-19036-6.

Kieran Egan, a professor of education at Simon Fraser University, proposes an innovative theory of curriculum and teaching relevant to K-16 education. Central to his approach is his concept of five kinds of understanding ("cognitive tools"; see Figure 1) usually mastered in a particular order during a child's development. The ordering of these resources mirrors the history of the "discovery" and development of these kinds of understanding in human civilization; Egan's is the first serious recapitulationist theory in education since at least the early part of this century. The theory emphasizes literacy and the development of facility in the deployment of language-related competencies. He also champions the value of even earlier mastery (in the mythic phase) of oral language use ("Too often, literacy is taught without much regard for the richness of children's oral-culture background"). Each cognitive tool is associated not only with learning at a particular stage or age range, but rather can continue over the entire lifespan. Nevertheless, Egan assumes that there exists a phase of maximum potency of ability to acquire the particular mode of understanding, within a sequence that is ordered through a set of interacting factors that are psychological, epistemological, and cultural. Also, elements of each mastered cognitive tool are brought – albeit in a truncated and incomplete way – the growth of subsequent, more complex cognitive tools, so that the capacity to deploy a cognitive tool acquired earlier in the sequence remains latent in every adult.

Egan provides excellent suggestions for how to develop curricula and teaching methods that use and develop each of these kinds of understanding while also imparting important skills and knowledge to students. Among educators, Egan is perhaps best known for championing the use of story-telling as a central instructional tool, and the book describes (as do his previous works) ways in which story-telling may be incorporated appropriately into the teaching process.

Egan's work is scholarly and he builds his arguments from the work of a dizzying array of philosophers, theorists, and researchers (e.g., Socrates and Plato, Aristotle, Rousseau, Wordsworth, Darwin, Dewey, Vygotsky, Piaget, Bruner). He also attempts to integrate recent work in developmental neuroscience into his developmental approach; unfortunately, the strength of the bridge between education and neuro-

science has been roundly challenged (Bruer, 1997), and readers should approach his neuroscience claims with additional caution (an ironic approach to reading Egan of which Egan would undoubtedly approve).

I also harbor strong reservations regarding Egan's claims that aptitudinal differences between individuals are relatively insignificant; I believe that people differ widely in aptitudes, and that effective educational practice is sensitive and responsive to such differences. However, reading Egan has prompted for me questions such as whether individual differences in aptitudes might have their continuing impact through, say, somatic understanding, and that their impact in subsequently mastered forms of understanding might not be mediated through a somatic understanding that becomes progressively enfolded in these more complex forms of understanding. In a related vein, Egan correctly identifies a major problem of education as how to preserve the capacity for learning through a "generalized learning capacity" into adulthood; he centers on educating the imagination as a primary solution. Egan's assertions find some support in the aptitude literature that suggests that *g*, or general cognitive ability (and presumably related to Egan's generalized learning capacity), is in fact closely related to personality traits associated with imagination and openness (Carson, Stalikas, & Bizot, 1997). There exists little doubt that *g* is a useful thing to foster through education; it is extremely useful in modern life (Gottfredson, 1997). Yet *g* is not the only royal road to learning, as Gardner (1983) and others have pointed out. There exists a variety of specific aptitudes that may facilitate learning in particular domains; it is unclear that fostering the imagination is the best way to stimulate continued learning capacity associated with the various other specific aptitudes. It is also unknown whether fostering the growth of generalized learning capacity (read: *g*) might have the unintended consequence of inhibiting growth of some other more specific forms of learning capacity.

In spite of my reservations centering around Egan's treatment of aptitudes, I believe his theory is extremely important, and that it has implications beyond education per se. For example, I am in the process of adapting it to career education and career development. Through separate communication with Egan, I understand that only two schools (both in Australia) have attempted to explicitly model themselves on the grounds of his theory. I have attempted to develop a charter school using his theory as a model, and although the parents participating in the design of the charter school were enthusiastic about the ideas Egan sets forth in *The Educated Mind*, it has proved substantially more diffi-

cult to excite established education professionals (teachers and existing researchers) about the merits of his approach. I wish others more success in applying his ideas.

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FIGURE 1: Egan's cognitive tools, typical ages and grade levels, main features

Cognitive Tool	Ages*	Grade	Main goal	Main characteristics
Somatic	till 2	home	mastery of mimetic activities	mastery of physical activities, rhythm, and non-verbal appreciation of and representations of the world (both social and non-social aspects of the world)
Mythic	3-7	pre-K-1	mastery of oral language**	binary opposites in thinking, metaphors, stereotypes; child is socialized into the local culture through stories, myths, taboos; gains a sense of belonging and right and wrong
Romantic	8-14	2-9	mastery of literacy	acquire conventional skills and ways of getting along (permits access to wider literate community than possible through oral communication with local group); finer gradations in thinking (not just binary opposites); interested in reality (not just myth or metaphor); concerns with limits and extremes of human potential and performance
Philosophical	15-20	10-14	mastery of theoretic abstractions	concern with theories of the world and one's place in the world via the theories; gradually, less concern with facts than with the theories; greater and greater sophistication in modifying theories so as to account for or resist inconsistent facts

Cognitive Tool	Ages*	Grade	Main goal	Main characteristics
Ironic	21+	15+	mastery of refined re-flexiveness	questions ability to know things as true through any of the other cognitive tools, except perhaps somatic; skepticism ranges from extreme to more reflexive (skepticism turned on itself)

*These are rough ages.

**Although children are taught the alphabet and reading skills in this period, it also is important to continue to develop the mythical understanding. More information about Egan's theory and implications for education may be found at his website at <http://www.educ.sfu.ca/people/faculty/kegan/>. (This table copyright 1998 Andrew D. Carson, all rights reserved, except for fair-use associated with this single instance of publication, or through such reprints as authorized by this journal.)

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BRUCE PIRIE. *Reshaping High School English*. Urbana, IL: National Council of Teachers of English (1997). 107 pp. US \$14.95 (NCTE members \$10.95). ISBN 0-8141-5668-1.

Despite the diversity of history and practice found in the educational landscapes of school, college, and university, the consensus, to quote cultural anthropologist Clifford Geertz, is that the traditional boundaries that have separated the various disciplines and genres of knowledge are collapsing. English language arts, the language in which much of teaching-learning is negotiated across the curriculum, as well as a disciplinary field in its own right, stands arguably on the "front lines" of such a transformation to the way we think, teach, learn, and construct knowledge. English language arts teachers have become aware of the impact of collapsing boundaries upon their discipline in a variety of ways, although what to do about it can seem bewildering. In a sense, the question we ask is how to get a foothold in an apparently explosive, yet intricate landscape. Where does one begin the re-visioning process?

It is in the context of this compelling need that Bruce Pirie's lovely book, *Reshaping High School English* falls. Pirie is an intellectual and a practising Canadian English teacher who also has the very real gift of entering into a conversation with his reader, thus enabling him to ground some exceedingly complex issues and concepts in a clear, engaging style. The book is rich both in reference material and classroom histrionics. In the case of the former, *Reshaping High School English* offers the enquiring reader a gold mine of contemporary, timely books, on topics ranging from the predictable – literature, rhetoric, response, writing, narrative modes of thought, to the eclectic – theatre as socio-