

## Book Review

Jan Sobocan and Leo Groarke (Eds.). 2009. *Critical thinking education and assessment: Can higher order thinking be tested?* London, ON: The Althouse Press. (Pp. xv, 1-355. Softcover ISBN: 978-0-920354-66-7; CDN\$ 42.95 + GST in Canada)

The desire to possess, teach, and assess critical thinking skills is a focus of attention for educators and psychologists and other professionals who recognize the importance of challenging unexamined beliefs, and distinguishing between facts, opinions, and claims based on evidence. Why is it that something so essentially important has been so elusive to teach and assess? The book edited by Sobocan and Groarke, [Johnson, and Ellet Jr.], takes on this fundamental question by addressing the issue of assessment, and explores whether higher order thinking can be tested. There is little doubt that this is a timely question given the conceptual and psychometric strides in educational testing research today. Moreover, in an era where preparation for formal testing is increasingly dominating classroom time and the consciousness of students, teachers, and parents, these are the questions that need to be raised for discussion. What we learn from this 355-page book, including index, is that there is greater consensus now more than ever as to what higher order thinking entails and how it may be measured, but the real challenge rests with persuading policy makers and other key stakeholders that these skills ought to be developed in the classroom and refined in measures for student assessment. In the remainder of this review, I outline the five parts of this book, comment briefly on the content and inter-relatedness of some of the chapters and conclude by reiterating some of the important issues the authors raise.

The book is divided into five parts, with a total of 16 chapters. The first part of the book comes under the heading of *Testing the Test* and it contains five chapters. The first chapter by Giancarlo-Gittens appropriately introduces the reader to some of the complexities of testing higher-order thinking in the aptly titled *Assessing Critical Thinking Dispositions in an Era of High-Stakes Standardized Testing*. In the second and fourth chapters, Groarke and Ennis, respectively, evaluate structural aspects of tests; Groarke evaluates the California Critical Thinking Skills Test for whether it meets its objective of measuring critical thinking, and warns us to not put excessive faith in what these tests can measure. Ennis considers the validity issues that should help us make informed decisions about the design and use of multiple-choice

tests for the assessment of critical thinking. Chapters three and five by Johnson and then by Ellet Jr., and Pitman, respectively, focus on foundational issues associated with critical thinking. For example, Johnson discusses the implications of the dialectical tier for a definition of critical thinking. The dialectical tier is a second level of argument, which involves knowing how to respond to opposing views during debate. Ellet Jr. and Pitman conclude the first section of the book by emphasizing the importance of recognizing the complexity involved in making decisions about tests and their appropriateness in pluralistic environments.

The second part of the book, labelled *Critical and Creative Thinking*, includes chapters six, seven, and eight. The sixth chapter by Hare promotes the necessity of imagination for the most productive use of critical thinking skills. In the next chapter, Hoogland explores the critical thinking aspects of Arts-Based inquiry and provides a useful perspective on how critical thinking can begin to be assessed in creative inquiries. In the final chapter in this section, Sobocan investigates the Ontario Secondary Literacy Test for whether it measures creative higher order thinking, and concludes that while it may hold promise, there is a long way to go before we can confidently say that standardized tests are successful measures of highly complex forms of thinking.

The four chapters in part three are devoted to *Assessing the Teachers, Courses, and Programs*. This is an especially important section of the book because it takes on the issue of pedagogy as seriously as the challenges found to plague attempts to measure critical thinking with standardized tests. Chapter nine by Case presents the tools for critical thinking, namely, intellectual resources that are essential components of the critical thinker and useful when evaluating assessments. In the next chapter, Nosich introduces us to the notion of fundamental and powerful concepts (e.g., cell) in relation to narrower concepts (e.g., mitochondria) and the need to teach students to make logical distinctions about the level at which information is presented and understood. Hatcher in chapter 11 offers a fifteen year perspective of critical thinking assessment and urges educators to evaluate their efforts at teaching critical thinking with well-known measures, which as imperfect as they may be, afford some psychometric advantages. These advantages include facilitating the comparison of student performance at one point in time relative to other groups in similar educational contexts and in appraising effect size gains. The final chapter in this section by van Eemeren and Garssen provides educators with methods to foster and cultivate argumentative discourse, a vital component of applying critical thinking in open discussion.

Parts four and five, the final two sections of the book, *Critical Thinking in an Era of Accountability* and *Critical Thinking for the*

*Future*, respectively, provide a strong finish to an equally strong and thoughtful preceding discussion of issues about the assessment of critical thinking. In chapter 13, Blair comes back to the question of who teaches critical thinking in K-12 classrooms, and convincingly articulates that instructors need to be prepared and educated for critical thinking before they can teach and assess others. The next chapter of the book by Kaser presents arguments, from a policy developer's perspective, on what matters for critical thinking education and assessment. Using examples from the province of British Columbia's initiatives for assessment, she illustrates how inquiry and critical thinking can be incorporated into different levels of assessment products so as to improve assessments *for* and *of* critical thinking, inquiry, and learning. Pinto and Portelli write the penultimate chapter of the book and discuss the challenges and possibilities for the teaching and assessment of critical thinking in democratic societies. They aptly indicate that critical thinking involves risk in thought and suggest that we may begin to see better assessments of critical thinking when this intellectual risk is extended to the way in which we conceptualize assessments in our current culture. In the final chapter of the book, Murphy recaps the complexities involved with assessing critical thinking, and revisits what she labels as the architecture or technology of assessment. Her final comment reminds us that teaching and assessment involve epistemic and ethical obligations not only to students but also to society.

*Critical Thinking Education and Assessment: Can Higher Order Thinking Be Tested?* is a book for everyone involved with the formal teaching and assessment of students. It should read carefully. It is not only informative but accessible in its description of a complex problem with no easy solutions. The analysis and discussion are refreshing for many of us who welcome the opportunity to revisit the question of how to measure complex constructs from distinct perspectives. A few hard-core measurement specialists and psychometricians, even psychologists and policy-makers, might counter by saying that the discussion is needless because we already have good psychometrically-sound, standardized measures of critical thinking and accountability systems. This, of course, misses the point not only because good can always be made better but also because we have yet to fully define and understand complex constructs such as critical thinking; such constructs require constant revisiting and reconsideration to make sure with each pass that we have considered the newest research and empirical evidence, options, and alternatives. For example, some cognitive scientists have recently published accounts and recommendation to include the avoidance of specific cognitive biases and heuristics in definitions and measures of critical thinking.

On an ethical front, it is imperative to question and analyze topics such as the teaching and assessment of critical thinking. The principles associated with who measures, what is measured, and how it is measured and interpreted shapes the labels, thoughts, and opportunities we offer to children and adults. The heaviness of the responsibility to measure accurately is great and this sentiment is a powerful thread that runs throughout the book, reiterated in some fashion, using distinct angles, by almost all chapter authors. Against the backdrop of scientific inquiry and analysis, the reliable and valid measurement of complex constructs needs to take place. However, as we are sensibly reminded by the theses of almost all the chapters this book, we cannot forget that we are not measuring table tops or grains of rice but rather people and their dispositions to think. Discussion is warranted and valuable because dispositions to think are complex and measures of thinking are approximations at best. A more demanding task would be difficult to find. The book teaches us that, yes, higher order thinking can be tested but results need to be interpreted with caution and with consultation of those involved and affected, and better instruments must always be considered and be ready for development. We need to be vigilant to not fall into the trap to thinking that we need not be critical of what we know.

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