Chapter 65
Teaching Critical Thinking: Content Integration, Domain-Specificity, and Equity

Bruce Torff
Hofstra University, USA

ABSTRACT

This chapter outlines how to teach critical-thinking skills is a central issue at home, in school, on the job, and in life. Outcomes of critical-thinking pedagogies are optimized under three conditions: 1) when thinking skills are integrated with disciplinary content, not sequentially following a content presentation; 2) when thinking skills are taught as utilized in specific domains/disciplines, not decontextualized or treated as domain-general; and 3) when thinking skills are emphasized for all learners, not just advantaged ones with greater prior knowledge or academic ability. Accordingly, teaching critical thinking might well be structured to be integrative, domain-specific, and equitable.

INTRODUCTION

Which car to buy? Career to choose? Person to marry? Situations as such, ones that require critical thinking skills, are ubiquitous in life. If people are to succeed almost anywhere, they need to go beyond knowledge memorization – to analyze information, solve problems, make decisions, draw conclusions, and make predictions, among other things (Halpern, 2014). Accordingly, much attention has been paid to how critical thinking (CT) skills ought to be taught in schools, on the job, at home, and just about everywhere else (Eggen & Kauchak, 2011; Holmes, Wieman, & Bonn, 2015).

This chapter enters the debate about teaching CT skills by making a set of three claims (detailed below). The approach instantiated by these claims has promise to optimize learning of CT skills in schools and elsewhere. The chapter presents the three claims in turn, followed by a concluding section.

DOI: 10.4018/978-1-7998-3022-1.ch065

Copyright © 2021, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

INTEGRATING, NOT SEQUENCING, CONTENT AND THINKING

"Learning without thought is a waste of time, and thought without learning is dangerous," – a classic quotation from the Chinese philosopher Confucius. But educators and non-educators alike appear to believe that learners must possess relevant content knowledge before they can succeed in a CT activity (Torff, 2015). This is the "sequential" epistemological viewpoint: content before thinking. Research underscores the pervasiveness of this viewpoint: for example, participants asked to rate the pedagogical effectiveness of descriptions of educational activities judged high-CT activities (but not low-CT ones) to be ineffective for students with limited prior knowledge – and effect that was stronger for low-SES than high-SES students (Torff, 2005, 2015). Widespread is the belief that individuals must acquire content knowledge as a precondition to successful participation in an activity that requires critical thinking.

In opposition to this "sequential" viewpoint is one held by such figures as Confucius, Socrates, Dewey, Piaget, and Vygotsky, who have argued that successful learning experiences often occur when content and thinking are combined – when learners figure things out, complete problem-solving activities, or engage in some other form of experiential learning (Halpern, 2014). From this "integrative" viewpoint, fusing content with thinking skills produces optimal learning because content is embedded in thinking processes that give content an immediate, practical use. From this perspective, an appropriate CT pedagogy emphasizes integration of content and thinking skills, instead of sequencing content before thinking.

There are abundant examples in modern schools in which pedagogies sequence content acquisition before thinking skills – if thinking skills are employed at all. At institutions of higher learning, it is common that a lecture be completed before a discussion section on the lecture topic is attempted; that the professor delivers the lecture and the teaching assistants typically handle the ensuing discussion speaks to the priorities placed on each. In this case, the sequential approach seems deeply institutionalized.

Other examples involve younger learners, ones in K-12 settings. For example, the great majority of mathematics classes begin with "chalk talk" led by the teacher, who explains a mathematical operation while completing sample problems, and then distributes a worksheet for students to practice on their own. With the exception of lessons on probability, which are seemingly thought to lend themselves to a more integrated approach, math classes almost inevitably employ this two-step procedure: teacher presentation of content followed by a practice session.

Lest mathematics be singled out for criticism unfairly, it seems appropriate to raise another example, this one in classes teaching new a language (e.g., Spanish classes at schools with English as the instructional language). In these classes, it is common for teachers to present content such as conjugation rules in a lecture format, followed by the dissemination of a worksheet that puts students to work applying the rules.

A lesson on regular -ar verbs in Spanish will clarify the point. Different verb endings are required for grammatical use of the verb (*yo hablo, tu hablas*, and so on). In an effort to ensure that students receive the information they need to conjugate correctly, the teacher begins the class with a detailed presentation focused on the relevant verb constructions. As the conjugation rules are presented, the thought process required for successful conjugation is effectively done for students, not by them. But the teacher recognizes the need for students to practice what they have been taught, and also the need to assess student progress, so after 10 or 15 minutes a worksheet is disseminated to students. The worksheet has three parts: 1) a list of verbs to conjugate; 2) an "error detection" activity with several sentences featuring regular –ar verbs, some of which are erroneous and need repair; and 3) a writing activity in which student compose sentences using the verbs in a word bank.

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/teaching-critical-thinking/269945

Related Content

Potential of Internet-Based Qualification Systems for Teachers in Federal Education Systems: Experiences From the Field of Economic Education
Michael Koch (2020). *International Journal of Online Pedagogy and Course Design (pp. 37-56).*
www.irma-international.org/article/potential-of-internet-based-qualification-systems-for-teachers-in-federal-education-systems/258260

Deepening the Understanding of Students´ Study-Related Media Usage
Joachim Stöter (2018). *International Journal of Online Pedagogy and Course Design (pp. 45-59).*
www.irma-international.org/article/deepening-the-understanding-of-students-study-related-media-usage/204983

Leveraging Multitasking Opportunities to Increase Motivation and Engagement in Online Classrooms: An Action Research Case Study
Glenda A. Gunterand Robert F. Kenny (2014). *International Journal of Online Pedagogy and Course Design (pp. 1-14).*
www.irma-international.org/article/leveraging-multitasking-opportunities-to-increase-motivation-and-engagement-in-online-classrooms/119667

Using Educational Computer Games for Science Teaching: Experiences and Perspectives of Elementary Science Teachers in Taiwan
Ying-Tien Wu (2013). *International Journal of Online Pedagogy and Course Design (pp. 16-28).*
www.irma-international.org/article/using-educational-computer-games-for-science-teaching/100424

Leader Launch: A Needs Assessment and Intervention for Effective Leadership Development in Healthcare
Candice Freeman (2020). *Cases on Instructional Design and Performance Outcomes in Medical Education (pp. 235-260).*
www.irma-international.org/chapter/leader-launch/258522