

## Chapter 5

# Critical Thinking Skills in Virtual Learning Environments

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### ABSTRACT

*As the increase in the growth of online education continues with the expansion of both online courses and programs within higher education, the most recent challenge faced by educators is how to incorporate the basic skill of critical thinking into synchronous and asynchronous virtual courses successfully. For instructors, it is then crucial to understand the correlation between critical thinking and an online learning environment. The greater goal of this chapter is to better understand the intersection of critical thinking within online delivery systems and virtual learning environments. This chapter also examines the various barriers and challenges to successful integration of delivering critical thinking courses online, while at the same time building on existing critical thinking research in an effort to connect existing critical thinking concepts to current new media and web 2.0 tools in order to reach the 'digital native' in the online course.*

### INTRODUCTION

With the growth in what is referred to as 'online learning' in recent decades, faculty are now challenged with the increased use of technology both in and out of their classrooms. Use of learning management systems (LMS), web 2.0 tools, social media and networks, MOOCs and fully online programs are increasing in popularity within higher education institutions. At the same time, the intersection of what technology can bring to

the traditional college course and program seems to have no boundaries. This includes 'live' courses, global classrooms, online simulations and labs, etc. As courses within both the asynchronous and synchronous virtual environments have continued to mature, the development of the curriculum has also progressed so that higher order thinking, evaluation and analysis have become present to much greater measure.

In an attempt to understand to what extent this advancement of reflective thought and examina-

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tion may be present within virtual education currently, this chapter will begin by deconstructing both the elements of critical thinking and virtual learning within higher education so that each may be explored as separate constructs followed by their intersections within the barriers and challenges encountered as well as the integration that faculty may choose to incorporate. It is from this examination that a clearer understanding of how higher order analysis and thinking can be achieved within a virtual environment. Suggestions for dealing with the 'digital native' student are also offered including current methods of teaching and learning online.

## **BACKGROUND**

### **Critical Thinking Defined**

Thinking is a part of human nature; everybody does it. However, there are numerous stories that illustrate the fact that humans don't always think critically. Whether intentions are good or bad, humans often don't think ahead and consider consequences. According to Moore and Parker (2007), the thing about critical thinking that distinguishes it from other forms of thinking is that if you aren't doing it, you may end up wishing you had. We've all heard about the thief who falls through the ceiling of the building he intends to rob and gets stuck for hours as the authorities arrive the next morning to arrest him. We've all had the friend who cooks for a large gathering of friends and relatives and completely ruins the meal by either over or under cooking the main course. We've all had the friend that just can't solve the Rubik's Cube or play a competitive game of chess. Whether the issue is small or large, simple or complex, crucial or trivial; humans often lose time, money, resources and reputation because of shoddy thinking that ends with shoddy results.

Many authors have created a variety of definitions for critical thinking and often those

definitions have a common thread. As early as 1941, famed educator Edward Glaser completed a seminal study on the development of critical thinking (Glaser, 1941). He defined critical thinking as a compilation of three things, 1) an attitude of being disposed to consider a thoughtful way the problems and subjects that come within the range of one's experiences, 2) knowledge of the methods of logical inquiry and reasoning, and 3) some skill in applying those methods. Glaser (1941) posited that critical thinking called for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions which it tends. Of course the ability to recognize problems and find workable solutions to those problems by gathering information, recognize assumptions, comprehending language and context with accuracy, analyzing and interpreting data, and arrive at reasoned conclusions is also paramount to Glaser's findings.

More recent definitions of the term critical thinking include research by Scriven and Paul (1987) that asserts critical thinking as an intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information gathered from or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. Scriven and Paul (1987) also believe that critical thinking is based on universal intellectual values that transcend subject matter divisions including clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth and fairness.

Linda Elder (2011) defines critical thinking as self-guided process, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way. She asserts that those who think critically consistently attempt to live rationally, reasonably, and empathically. Most importantly, critical thinkers never strive to think simplistically about complicated issues and always consider the rights and needs of relevant others.

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