Chapter 7
Brain Based Learning Environments in an Online Setting

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ABSTRACT

This chapter introduces the reader on how to foster successful learning communities to meet the diverse needs of university students by creating a brain based online learning environment. Students come in all shapes and sizes. At the university level, students enrolled in online programs, have made a choice to do so. Today, online education is a unique and important venue for many students wishing to continue (or start) their education. It is part of a new culture with many distinct characteristics (Farrell, 2001). For instructors, online instruction creates its own set of challenges in terms of the course design and implementation. The author hopes that developing an understanding of how to create a brain based online learning environment will inform the reader of ways to foster successful learning communities to most effectively meet the diverse needs of the students it serves.

INTRODUCTION

Students come in all shapes and sizes. At the university level, students enrolled in online programs, have made a choice to do so. Individuals of various ages enter our programs. These individuals learn differently, and because this is true, we must keep this in mind in creating a learning community at the university level that will meet the diverse needs of the online learner. Today, online education is a unique and important venue for many students wishing to continue (or start) their education. It is part of a new culture with many distinct characteristics (Farrell, 2001). For instructors, online instruction creates its own set of challenges in terms of the course design and implementation in order to most effectively meet
the diverse needs of the students it serves. In order to most effectively foster a successful online learning community, it is important to consider what it means to meet the diverse needs of students.

**BACKGROUND**

Differentiation has come to mean “consistently using a variety of instructional approaches to modify content, process, and/or products in response to learning readiness, interest, and learning profile of academically diverse students” (Tomlinson, 1999). The standards tell us what our students need to know and be able to do in the K-12 setting. The same is true at the university level when preparing school principals. State and national standards guide our programs so that they address what future school leaders must know and be able to do. Although the goal is the same – to become school leaders – these students are still diverse in terms of readiness, interest and learning profile. Differentiated instruction helps to get students in achieving the end result, while at the same time teaching them how to learn in a meaningful way.

The pedagogical theory that guides differentiation is constructivism; the belief that learning happens when the learner makes meaning out of information (Benjamin, 2005). Just as we have a variety of learners in the face – to – face setting, the same is true in an online environment. Online education must capitalize on student’s unique approaches to learning, says Nishikant Sonwalkar (2003). In order to do so, we must design and implement programs of study and courses that differentiate to meet the needs of the students we serve. Tomlinson’s (1999) framework on differentiation of instruction indicates that it is “a teacher’s response to learner’s needs guided by general principles of differentiation, such as respectful tasks, flexible grouping, and ongoing assessment and adjustment.”

At the university level, students enroll in programs because of their need or their desire to study in a particular field. With this in mind, we as instructors need to create the conditions for someone to become interested in learning. The research (Tomlinson, 1999) indicates that individuals learn in accordance with their readiness to do so. Jenson (2000) indicates that moderate challenge is critical. When a task is not challenging enough, students become bored. Yet, if a task is too challenging, students become anxious. Also when interest is tapped, learning is more likely to be rewarding, and students becomes more autonomous learners. When designing a learning environment, helping students to discover and pursue their passions can maximize their engagement with learning, their productivity, and their individual talents. Finally, individuals vary in preference for conditions of learning and that consideration of the multiple intelligences (Gardner, 1991) is also important.

**BRAIN BASED LEARNING ENVIRONMENTS**

As higher education institutions in the United States push for more online courses, instructors are faced with new issues and challenges related to teaching in the online learning environment (Clemons, 2005). Clearly the most important role of the online instructor is to model effective teaching and accept “the responsibility of keeping discussions tracked, contributing special knowledge and insights, weaving together various discussion threads and course components, and maintaining group harmony” (Rohfeld & Hiemstra, 1995, p. 91). Differentiating instruction is good teaching and it is here to stay. Student learning is impacted by how the human brain accepts and processes information delivered in the course (Clemons, 2005). Therefore, it is important to first understand what differentiated instruction is in order to design courses that will meet the diverse needs of the students it serves. In addition to designing courses to take into account knowledge, skills and dispositions as it relates to their academic focus,