



# Effect of Teaching using Whole Brain Instruction on Accounting Learning

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## ABSTRACT

*McCarthy (1985) constructed the 4MAT teaching model, an eight step instrument developed in 1980, by synthesizing Dewey's experiential learning, Kolb's four learning styles, Jung's personality types, as well as Bogen's left mode and right mode of brain processing preferences. An important implication of this model is that learning retention is improved in the whole brain treatment group and thus this model is effective in retaining learning information as long term memory. Specifically, when examine the effectiveness of student scoring levels (high, median, and low), the results indicated that retention improved across all levels in the treatment group while results were inconsistent in the control group. When examine academic achievement and attitudes, interaction factor of both school and method showed a statistically significant difference. [Article copies are available for purchase from InfoSci-on-Demand.com]*

**Keywords:** *Accounting Education; Academic Achievement; Learning Attitude; Learning Retention; Whole Brain Learning*

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## INTRODUCTION

Vocational education in the secondary education level has had a great influence on the economic growth in Taiwan for the past forty years because the major labor force it provides. As Yang (2001) noted, the goal of vocational high school education is to prepare students with appropriate skills for them to enter the labor force right after graduation. Also, Jones (1979) explained that the educational movement

in secondary vocational schools in the United States has transformed the focus from subject matter to employment and providing practical and introductory job knowledge is essential in this educational setting.

However, due to rapid societal changes in Taiwan, a large percentage of students in vocational high schools are now inclined to pursue higher degrees (Chuang, 2001; Yang, 2001). According to information released by the Taiwan Ministry of Education (2008),

nearly four times more vocational high school graduates pursue higher degrees than they did ten years ago (1994, 16.22%; 2005, 69.79%). Achievement and competency should be equally valued in vocational technical education (Jorgensen, 1979). In Taiwan, with the push to close the gap between vocational high school and academic high school, academic performance has consequently become another educational focus of current secondary vocational education in Taiwan (Taiwan Ministry of Education, 2008).

The American Accounting Association (1986) reported that the major goal for general accounting courses is to equip students not only with content knowledge, but also with the competency to relate learning to lives. The Accounting Education Change Commission (AECC) (1990) reported that the purpose of accounting education is to help students become independent learners and continue to learn in their professional lives. Developing students as information providers and communicators for business decisions are two major areas of focus in the first course in accounting, and the teaching method in such a course should focus on student involvement and learning interaction (AECC, 1992). The structure of accounting education is out-of-date and transformation is needed (Albrecht & Sack, 2000).

Accounting education in Taiwan follows the American system in many ways. According to Chuang (2001), accounting courses in business vocational high schools in Taiwan have been delivered passively without any connection to real life; the lecture method of content delivery dominates. The test oriented, abstract, and serious nature of accounting makes it a subject in which many students do not have interest. In addition, researchers (Wang, Sheu, & Chen, 2008) noted that the major teaching method in accounting course in Taiwan focuses on depositing learning materials and memorization.

Diversity exists in every classroom. Nevertheless, schools do not provide students many alternatives in ways of learning or testing (O'Neil, 1990). Students bring their own experi-

ences, interests, and preferences in learning to the classroom (Erlauer, 2003; Stronge, 2002). These learning differences should be equally valued and respected in every classroom (McCarthy, 2000). Teaching business classes in vocational high schools should encompass different alternative delivery options (materials, media, and methods), and teachers should realize these alternatives provide several classroom management strategies allowing teachers to become facilitators instead of broadcasters of new information (Jones, 1979). Applying a proper teaching methodology not only helps students to overcome learning obstacles, but increases their learning performance (O'Neil). Education professionals should understand the function of the human brain as a whole and adopt brain related research since it can fill the classroom with energy, motivating teachers and thereby validating good teaching techniques (Jensen, 2005; Nunnolley, Whaley, Mull, & Hott, 2003). Sharing the same idea, Loo (2002) suggested that educators should use flexible teaching techniques to approach different learning styles in a class. Furthermore, McCarthy (1985) constructed the 4MAT teaching model, an eight step instrument developed in 1980, by synthesizing Dewey's experiential learning, Kolb's four learning styles, Jung's personality types, as well as Bogen's left mode and right mode of brain processing preferences. This 4MAT teaching cycle contains eight steps: connect, attend, imagine, inform, practice, extend, refine, and perform (McCarthy, 2000, p. 227). In Borkowski and Welsh's (1996) early adoption of this model confirmed that 4MAT is an advantageous instruction tool in accounting courses.

## Statement of the Problem

The goal of accounting education in the United States is to develop future business professionals. However, accounting programs no longer attract as many students. For example, according to Sanders (2001), the numbers of students obtaining bachelor's and master's degrees in accounting has decreased nation-wide from

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